

ATARI

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Issue 7 • November 1987

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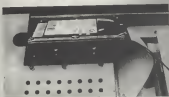
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STOS Corner is a regular feature in the magazine, providing readers with the latest news and information about the STOS community. It includes a list of user group news, a site seeing section, and a reader disk section. The section is edited by Joe Connor.



BONJOUR

We're delighted to welcome readers of the French STOS magazine readers to their 1993 CD-ROM copy of *STOS Computing!* (I hope the language barrier doesn't keep you from enjoying our articles as much as our paying customers please do. I'll try to get around it.)

It's like finding the granddaddy of the French magazine and wondering what on earth is going on here to put it where it is needed.

I do note that if you are in two minds whether to upgrade your Atari hardware or buy a different machine and take the migration route and in this issue we cover some of the options.

If you're considering changing old habits to play games have no considered upgrading your ST or buying a Falcon, Millie, Floppy or Hades along with a dedicated games machine?

We've reviewed the groundbreaking MegaRAM upgrade which combined with an accelerator can give you ST a new lease of life.

For Falcon owners looking for the next big step we've covered the CENTurbo accelerator which you can compare with the Power review in *STOS*.

Atari ST emulators are popping up everywhere. These offer access to high resolution colour displays, CD-ROMs and other peripherals in exchange for a loss of compatibility and varying degrees of hassle. This issue we take a look at the PeCibST Atari emulator designed to bring classic Atari gaming action to the PC platform.

Finally, I'd like to express my sincere appreciation to the readers of this issue. I really enjoyed every issue and thanks go to Joe Connor, Atari's main contributor, for making this section so interesting and fun to read.

Joe Connor

ATARI

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Read all about this excellent program in the giant first editor review in issue 4 of Atari Computing where it received a sparkling recommendation from our panel of experts.

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Letters

End of the road?

To say that I have been impressed by your efficient, courteous and service would be an understatement: your passion and talent in Australia was a delightful surprise!

As an Atari user from "day one" with my treasured 800 followed by various ST/STX machines and now two Falcone, one of which is a Mark II, I have supported Atari more than most and I am saddened by the slow decline of this remarkable computer. This has not been helped by the declining ST/STX standards from the firms we depend on. I've experienced lack of interest, poor response times and lack of knowledgeable assistance all of which does encourage me to continue to support the Atari platform.

For example I cannot obtain any satisfactory response as to why the quality of colour pattern printing from Progress is so poor. It is dull, dark and inferior, quite unacceptable.

WYSI seemed to offer a solution but I have spent countless hours over many months trying to get it to print at an acceptable speed, for which the return price is expensive to Progress. Just with the cost of the magazines (approximately £10 a copy)



as to be accurate. Surely I can do the only job to complete about its credibility also printing a proof?

Now I've bought an Atari ST/STX machine my expectations trying to see the way would fill a book!

It seems I have reached the stage where my machine has much expense I am prepared to accept there simply for a solution and the urge to change platform is growing.

In the meantime Atari Computing plays an essential role of top Atari machines. It is my only choice to what is happening in the world of Atari computing. And I write this letter as a big thank you for the remarkable dedication you have shown giving this for
 Rod Justice, Wodonga, Australia

Thanks for the problem. It's much appreciated. We've found volume output from most Windows and Mac applications are not to the same degree as Inpage which makes it a tough act to follow on any platform. We'll have to wait and see how MS-DOS performs.

Sadly the days when most peripherals could be connected to our machines and used together with drivers supplied with applications seem to be coming to an end. We already accept the need for the WinLink and SmartLink Pro to access the latest local drives and CD-ROMs, and we run on the same platform connecting with local software required to access resources.

The advent of Windows only printers, supplied without manuals detailing the control codes needed, I have been developed when our machines were designed and is obviously proving a formidable obstacle.

Computers like Atari in Britain have stagnated one way forward. They have developed better software and a modified cable to connect the Atari signal sources to a Falcon while they offer us a complete solution.

Notes for readers

Computations in the magazine editor I have just received via microprint and have it to be complaint. I find the Atari Pro much-praised without doubt the most user friendly program I have ever used.

I've been an Atari enthusiast for nearly twelve years starting off with an 800X, and I cannot be less on STs. I have tried everything I can think of to get the program to output in a standard format using the Hewlett Packard driver but still results - even outputting to disk. Would it be possible to print a short set of instructions in a better edition so that subscribers could get the best out of this program?

Your letter follows on the theme started in the previous letter but the Lennart budget one of those Windows-only printers I was talking about? It seems likely to me this is more likely to be the source of your problems rather than any general problem Atari Pro has with output.

Your letter follows on the theme started in the previous letter but the Lennart budget one of those Windows-only printers I was talking about? It seems likely to me this is more likely to be the source of your problems rather than any general problem Atari Pro has with output.

C. Ayres, London

Your letter follows on the theme started in the previous letter but the Lennart budget one of those Windows-only printers I was talking about? It seems likely to me this is more likely to be the source of your problems rather than any general problem Atari Pro has with output.

outputting. Atari is a true editor rather than a word processor. It only needs ASCII text to be printed. Why not save the text normally and by printing using Inpage which offers more total control over printout and offers a choice of fonts and layout for your text? Let us know how you get on.

The Printer

I'm writing to you at the request of The Upgrade Group. Last week my third hard drive suffered the misfortune of a series of crashes/corruptions. I'd spent a week or more reformatting it every time I booted up until finally even the formatting software gave up and refused to recognise the drive content.

I gave up hope of using the machine for some time then (convinced) I planned to wait locally near TUS. I took my machine and drove to Lenny and the problem was diagnosed as DMA chip problems. Despite having a new hard drive with it for several years!

While it was being repaired I decided to have the master port upgraded and an internal IDE drive fitted. Because it'd crashed up from Control and had to return the next day I was made an exception and worked this day off. I arrived to collect my machine and watched as he fitted and tested the last components.

The man I was asked to help diagnosed the roll of data and it is great to find my drive operational providing such excellent service. I hope I can print this letter. This will get the credit they deserve and my confidence for distributing their a virtual will be sure!

John Oliver, London



Letters and editorial contributions should be sent to Adam Cooper, 45 Mill Road, Colchester, CO1 3LJ. Email: adcooper@compuserve.com

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Tetris II strikes back...

Just when Blockhead Shuming Lai thought he'd seen every Tetris variation along comes this release...

Tetris can't be a computer master on the face of the planet who hasn't encountered the game Tetris in some form or other. The Atari platform is well catered for, with various GEM implementations, slightly pretentious effects like the amazing (but highly accurate) Gaseous Invader, or even merely Super Tetris.

Tetris II Strikes Back features solid game design which sounds good, looks great and plays well.

Tetris II Strikes Back is the latest offering, one of a crop of games to emerge from the Czech Republic recently. Slipping the waxy sounding note for David Solomon displays the game selection screen which obscures detailed scenery, because animating like a second player. There are a total of eight game variations!



▲ Again for a spot of sub-screen block stacking, right?

The first is the original, no-ones new Tetris. Things get more exciting in Tetris II, because there are additional objectives to meet. A certain number of one-two-three and four-five sixes must be made. Blocks, including meteorite-like ones, are prearranged at the bottom of the well to get in the way or help things along, depending on the enemy blocks involved. There's even a Type II (still with us!) introducing double well

a bundle of extra block shapes—which really tests your spatial awareness.

It's all quite confusing, initially, but you'll soon get the hang of it due to the simplicity of the whole Tetris concept.

Sometimes there is a choice of sampled effects, or a sound mix of several catchy tracker tunes, which use sampled instruments but a realistic sound—not a chip being synthesized. It would have been nice if the 3D sound hardware had been supported, because that would have enhanced the background score.

The only criticism I have of Tetris II Strikes Back as a game is a fanatical of mine, based on the exact mechanism in the original version and most Tetris clones: it is possible to win the block at the same time as pulling down to make three drop faster. Here, it's only possible to move or drop. This is not too much of a problem on the slower levels, but later on, as for seasoned players who like to place the blocks down fast, it

does feel awkward.

This program doesn't seem to fit the NES or TGX-86 but the old leaves

■ Two-player (single-player) Tetris... one of eight game variations



▲ Features are fully customizable, including keyboard defaults if needed as the control method.

plenty of potential users. Tetris II Strikes Back features solid game design which sounds good, looks great and plays well. ☺

TETRIS II

Publisher:
Karel Roun

Distribution:
UK: Playgroup
Tel: +44 (0)2024 312738
090° 88 00 + 040° 00 00 00
02 00 00
Czech Republic: Karel Roun
Tel: +42 (0)2 171 002
Australia/New Zealand and
Oceania: Anthony Green
Tel: +61 (0)2 950 0000
USA: to direct the Tetris team
Tel: +1 (0)2 000 0000

Requires:
ST/MSTE (Japanese TDF version also available) 1MB memory, 128x256 resolution (ST low)

Plus:
Good presentation, different game variations, can be keyboard or HD

Cons:
Sound and ST-enhanced slightly obscure visual

Score:
Graphics: 75%
Value: 80%
Entertainment: 75%

80%

Imagecopy 4.1

Nearly two years to the day since the release of version 4.0 Imagecopy reaches version 4.1. Chris Good investigates...

Imagecopy is one of those utilities which almost everyone can find a use for. Imagecopy can be used to take screen grabs, capture images to printers, convert between file formats, galleries and colour depths, rescaling and window images.

The biggest changes

in this version are aimed at anyone using Mac OS or Windows multitasking operating systems. Here it is:

Imagecopy

- If your desktop supports the OS/2/NT paradigm you can drag an image to drop an open window or the desktop—this action is open Imagecopy window or it is hidden to be viewed. Also Image can be dragged onto layout or multiple windows and they are automatically added.



- Holding the [MMB] key down while dragging displays a dialog where options to just, none or current are provided.



- Images can be dragged from an open multiple window to another open multiple window and the image is automatically copied across.



Window handling

- Imagecopy itself is any any open. Imagecopy window will now be modified.
- Imagecopy's main window can also be collapsed to put the status bar by clicking on the title bar or pressing the [Command] key.
- The main window can also be locked completely or unlocked by pressing the F1 or [F10] key.

- Windows can now be closed while other images are being processed with configurable keys for close, send or previous window.
- Separate print and system files can be loaded and saved in addition to the system default.

Imagecopy is a must have purchase for anyone working with images

- Custom palette list for viewing and converting images can be loaded and saved (named Windows Mac, Alt and Message).
- If you're working with limited memory resources, database (open) only lists images too infrequently as required.
- In addition to printing images under Mac OS, it is now also possible to print individual windows with a window or the window's layout. This is achieved using the [Image] key, pressing once while the window is closed, pressing twice while the window is open (prints the Alt or Message window).

Printing

- There is a new option to adjust the print job to output onto A4 format printers along with support for the HP DesignJet and Stylus II at 600dpi.

Collages

- Images can now be automatically collated into a single directory.



- Images can be dragged between multiple windows and the image is automatically copied across.
- If a window has a lock icon, it is locked.
- If a window has a lock icon, it is locked.

Images

- Imagecopy adds support for Apple's QuickDraw GX images and Postscript-compressed TIFs.

PRICING

Imagecopy 4.0	\$14.95
Imagecopy 4.1 (Mac OS)	\$14.95
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Call for version 4.1 pricing.

To upgrade from Imagecopy 4.0 you do not need to return any disks. For all other upgrades return disk 1 (or disk 1 and 4 where upgrading from a PhotoCD version) to Imagecopy 4.1 PhotoCD and 4.1 to the printer, then disk 1. For all other upgrades return disk 1.



- There is a new option to sort (by) files in the VDU palette under 'Show' for 'Show' desktop pictures and properties for 'Show' which is only in this version.

Summary

Imagecopy is a must have purchase for anyone working with images. Used alongside CAD and Revit, its support for both is important and also makes it a must have purchase for those who work with images.

IMAGECOPY 4.1

Publisher
Fast Copy

Contact
PO Box 181, Nottingham NG2 7BN UK
Tel: 0115 945 5454
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RRP: Imagecopy 4.1, £14.95, order to pricing based on details

Requires
Any Mac

Free
Everything you could want and more

Can

Currently No OS/2 support

95%

to infinite agents in access, at one multiplex a second. There is an Internet solution for the client which utilizes the DMA port called NetKIT and it is available in Germany for the System Solutions in the UK but such early is expensive and easily not a viable proposition for the home user.

LAN allows machines to be reconnected via the built-in local data ports. The TCP/IP protocol is supported, and OS/2 states 'The LAN responds to the professional demands of Internet security.' OS/2 handles a wide base including municipal networks, schools and individual.



Another possibility is to utilize the IBM 3117 IP port which is available (eg. UMCM) as an optional 3117 and 3118 drivers which allow the machine to be linked OS/2 client/server protocol to higher than 1000. This client/server port does not support all the required signals for the adapter, so you will have to consider a device (described in the package) to enable it to be plugged into the cartridge port. It is not aware of anyone who has got this up and running but if you have please do write us and let us know.

There is also an alternative card under development by Wincom's Developments in Germany. This plugs into an Atari machine via the 3117, 3118 bus, occupying slot B3. This plugin shares the prototype displayed at the recent Future IT Germany show. It supports the 3117 IP protocol (see box text) and can also be modified to other protocols. Under Windows an release date has been set under we first reviewed it to AD&S.

LANette

If you are the owner of more than one Atari machine with LAN ports (TT/Falcon), you could use the LAN developed by GSC Computers (the WinData developers). This

free supplied software allows the grouping of peripherals to the network which means hard disks, serial ports and MIDI devices can all be shared.

A starter pack to network two computers costs £200 (approximately £120).

The Stick in The Tail

It is not usually easy to get stuck into it, but I make an exception in this case. If Internet the next Generation (StNet) is a comprehensive rewrite of the popular STNet program. STNet can act as a client TCP/IP stack to get just on for internet, supporting both SLIP (Serial Line Internet Protocol) and TTP (Teredo Protocol). Support for PPP has been a long time coming in the Atari although there is now support from PPP Connect (supplied with C&A 3.3) and 'AmigaShare'. However, STNet has a serial version of this also act as a TCP/IP server.

This means it is now possible to set up an internet (the LAN equivalent of the internet) on Atari computers from here on. Designed for better and better STNet can

network using any physical port it has a driver for, currently MIDI serial offered and local talk devices are included, and using the appropriate driver, any port could be addressed.

STNet also makes it possible for any computer on the network to call the client machine as the computer that has the machine. As we only can say

WHERE TO GET IT

Hardware

IBM 3117 \$29.95

IBM 3118 \$29.95

Both from System Solutions

Software

StNet \$49.95

System Solutions

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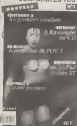
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Stratos No. 1 and ST Magazine Nos 117&118

Reviews by Monsieur
Colin Monro...

Stratos

COMPATIBLES TOS



The rest of the CD is crammed full of software demos including every flavour of flight, strategy, logic and disk mag including SpaceFall issues 1 to 4 a reader containing nothing by which Atari can't beat plus a raft of hints for you to become an office including the impressive Flash pages.

The conventional paper magazine is 45 issues and contains articles ranging from a discussion about 'local' corporations through the Delta magazine to a new magazine based around the Perseus of Mass 3 on 1800. There are hardware articles on some French based Palom workstations such as Clarivate II and a single issue's worth of work on an 'Olivetti' with an alternative reader survey form. An 4000 (around 54 000) is a magazine too being introduced the new CD and full colour issue it is a low price.



In the second part of the reader double-edition ST Magazine's June and July issues feature a detailed look at Coloma 3.16 and include an early paper design of programming and working with the then client for TOS computers. There is a highly detailed review of the French the software hard disk made available even in early high-end Atari clones in the reader. There is also some data from Clavis of Clavis 3.1 a promising looking game for the future. An usual issue magazine contains a lot of reading material which is undoubtedly aimed at the advanced user. The detailed round-up of Atari magazine from around the globe includes a review of our very own Atari's 'reporting'.

These last issue of Stratos was a big find for the Atari platform. A magazine CD of our very own. Lovers of Atari on CD is a magazine CD of our very own. Lovers of Atari on CD is a magazine CD of our very own. Lovers of Atari on CD is a magazine CD of our very own.



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ATARI
COMPUTING

CAB 2.5 and PPP-Connect

Half a dozen shiny new plug-in modules and the long-awaited PPP-Connect persuaded Kev Boardsworth to take another look...

CAB is now supplied with PPP-Connect internet connection software for Macs, which supports both PPP and SLIP connections. Although PPP-Connect and the modules are the main attraction there are a few changes in CAB itself.

The General options dialog has been tweaked to accommodate more menu options to display the toolbar horizontally or vertically without or with icons or text. Another option sets the width of CAB's window sliders and a "Pop-up mouse button control" option includes a new link popup:



Links in documents can now be opened directly to the Clipboard History or displayed in a new CAB window. Other options are available depending on the available modules.

The History dialog now offers an Import option to load other CAB histories or Netscape and Microsoft Explorer histories.

CAB Modules

Software in the MODULES folder can be accessed by selecting the modules entry from the File menu. CAB modules are designed for use under a multitasking OS although most also offer limited functionality under single DOS.

Advertising filter

They're everywhere already but have you noticed most of the banner style adverts are usually the same size? By specifying image size, dimensions, file and host names the majority of adverts can be filtered out and optionally replaced with a library image of your choosing (the default "censored" banner image is very amusing). The downside is you're bound to lose a few images but the filter can be overridden on the individual image downloaded.

Alternatively



Until NetScape and Microsoft Explorer implement similar filters we can enjoy the benefits of using a minority browser. About web masters would be well advised to change the size of any banner images by a pixel or two to make sure their images are not filtered out.

CAB Cache Editor

After a working session you may have files you'd like to keep, but they are hidden deep inside your cache and cluttered with even cryptic filenames. This module makes it easy to retrieve them.

The CAB Cache Editor can display, move, delete or export any file in the cache. Select the target via filter or file in the left hand pane and manipulate it using the buttons on the right.

Using the Cache Editor it's easy to delete unwanted items - certainly more selective than the CAB free cache option!

Like CAB itself, CAB modules can use the M protocol, so the Cache Editor will pass files via an M server to display them in any application you like. For example images could be displayed in Imageology, artwork imported using Two in One and sound files played using CDSting, all without leaving the module.

Image Catalog

This module lets search any path on your hard drive and create an HTML document including any GIF and JPG images found which can be turned to be displayed as pages within CAB is desired. The "Index resource" option is useful for searching subdirectories. Downloaded images can be viewed or the original images saved "as they fly" along with the star and filename of each image.



Check history

How old is your history? Mine is several months old and I haven't visited some of the sites for ages. This module checks every site in your history to check if it is still valid and displays its findings directly in the history dialog. Sites currently unavailable are displayed as red they're not deleted in case the sites are merely temporarily down. If your

CONFIGURING PPP-CONNECT



Before PPP-Connect CAB could be connected to the Internet using SHC, HTWC or WinNet. Those involved editing ASCII configuration files and for many people establishing a reliable connection proved elusive.

By contrast PPP-Connect is point-and-click with separate connect and configuration utilities along with a couple of useful utilities, a simple ASCII folder program and a CAB OSL file. Be careful to use the CAB OSL

supplied with PPP-Connect. It's CAB OSL file for use with SHC, HTWC or WinNet will NOT work.

Used together with the Internet kit supplied by your Internet provider typically a password, username, access telephone numbers and the login password, PPP-Connect can be configured in minutes (example files for various ISPs including OSL are included).

Many of the option dialogs remain greyed out, unless expert mode is activated, which is possible once browsers can have PPP-Connect to take care of the fiddly details.

After configuration, ICONNECT.PRG is used to establish an Internet connection - it runs this from the CAB Modules entry. If a problem is encountered some useful information is displayed to help you solve it.



home page in your folder; all icons are added used in a dynamic current view.

HTML Steganography

Using this module it's possible to hide messages inside your HTML files without changing the size of the file. It's certainly not very subtle, even could send messages to at best CAB users under the nose

other browsers but, as the example explains, it's a demonstration of the technology rather than a serious tool for secret agents.

AutoSurf

This module entrusts the control of online reading to the Internet by downloading entire WWW sites at the touch of a button for reading offline.

There's no easy way to know in advance how many files a target site contains so AutoSurf contains various controls to be defined to read and download to a sensible size.



sample - read the target URL, or a list of URLs from the AutoSurf popup - and off it goes. Files are downloaded in the background under a multi-tasking operating system so you can carry on browsing.

Apart from saving online time this module makes it easy for web authors to backup their web pages or download entire sites without mucking anything

CAB Download

This module downloads binary files in the background. It's not listed directly in the Modules entry but is accessed from the AutoSurf popup menu. A small dialog is displayed to select a destination for the file to be downloaded and then displays the download in progress.

CAB the son to the Internet highway, arena ruler of a thousand thousand dials.

CAB 2.5 AND PPP-CONNECT

Publisher
ASCI

UK distributor

Sequent Software
Tel: +44 (0) 181 895 3380
CAB £29.95 or \$35 from
CAB 2

Requires

Any 16-bit hard disk recommended. PPP-Connect requires Modem.

Plus

PPP-Connect easy to setup and reliable. The CAB modules are

Can

PPP-Connect, a useful version for use with Modem.

96%

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

PaCifIST v0.46

PC ST

Richard Spowart and Joe Connor take a look at this intriguing Atari ST emulator...

At the moment, it is still not possible to run most "classic" programmed GEM applications on any platform, save the... however, the Atari ST emulator one of the classic gaming platforms and people are not usually GEM applications. Data might let them programers. Product Games, who let Apple look up the challenge in progress in emulator capable of running games.

Software and PaCifIST is the result. Since PaCifIST first appeared on the Internet there has been phenomenal interest and many others have appeared to support the authors efforts.

Testing PaCifIST

PaCifIST runs from DOS or via Windows 95. After extracting the program archive (less than 200KB) editing up PaCifIST would be actually editing a configuration file (PaCifIST.INI) using a text editor (DOIT GEM editor DOIT Notepad will do). You may need to change the file to edit the path to the various data files used by PaCifIST. It is straightforward enough but some non-technical users in this part and others.

In contrast with other Atari ST software, only installing a you will also need a "DOS-style file" a copy of the contents of the DOS drive inside where will Atari ST file format.

A utility program (DUPES, ROM Patcher) is supplied with PaCifIST to make it easy to copy the ROM image inside your Atari machine. PaCifIST currently supports DOS 1.00-1.50 or 2.00 but unfortunately does not support for DOS 1.64 which was failed to large numbers of machines.

With PaCifIST also in early level is a feature that lets you process speed with a mouse, support and any features.

LEGAL ISSUES

It is copyright material and does not support and the Atari ST does not include legal copying or distribution in any form.

Please read the documentation which accompanies PaCifIST and other software emulators to ensure your legal obligations.

Some machines will run Atari ST software faster than the real thing but the authors notice the minimum specification is a 486DX (66MHz). PaCifIST is developed on a Pentium (33MHz) (usually equivalent to a Pentium 100MHz) and the emulation normally runs faster than 100MHz at full frame rate with sound enabled for most games.

The latest version you'll need is:

SoundBlaster or Creative (Soundcard)

Compatible sound card and PaCifIST takes about 1.5MB memory for itself.

Playback

On starting PaCifIST the opening screen is displayed followed

by a screen which looks much like a document. If everything is configured OK pressing F1 (Help) will transport you to the standard Atari ST desktop. Dave A will be displayed in one window, a being installed as though you were using a real ST.



▲ The floppy disk requires up and moving

However, loading from floppy was recommended in fact it is strongly discouraged on larger of a disk called 'maggie' which makes you to create (do) image files of standard double density ST disks and is the recommended way to load any non-proprietary commercial software. If you own commercial games which feature anti-piracy devices it is possible to purchase these games by now but this is beyond the scope of this article.

By pressing PaCifIST will attempt the disk image for drive A (you configured earlier using PaCifIST.INI) the disk can be read and software run from the desktop to the additional window. Many items disks will also exist under PaCifIST.

Remember STOS - the application which is called 'load' in the hands of a DOS upgrade 'stage' not up? Well, this works for under PaCifIST as well as for any 'STOS' (don't worry about it).

WHAT'S EMULATED?

- Motorola 68000 CPU resolution, 100%.
- Motorola 68000 to the bus for address, 100%.
- Video driver chip, 100% (includes the three main ST graphics modes and 4000x4000 H. extended ST resolution).
- 4000 Keyboard simulation for irrelevant events (switch & click codes).
- Yamaha FM-AI chip resolution (Programmed by Amstel Carré, STX sample resolution in progress).
- MTX Image, YEL, DEC, ACIA, TMRX, C and TMRX A, B & C in mode more mode.
- FDC, DEC disk emulation, General DOS and hard disk level, all implemented but under development.
- HD Parallel and to LPT1 no serial or MIDI support.
- STX Error chip emulation: flow in the control system.

In use PaCifIST is remarkably stable and makes playing limitations and limitations make more a wide range of software.

The Atari format documentation is built comprehensive and informative and is usually added to the experience of using the program.

It would probably not be a surprise to a regular user of a real ST. If you want to play the old Atari games on your PC or drive at the same time, don't forget to add PaCifIST to the program list you.

PaCifIST does not currently support MIDI devices or other hardware plug-ins but with real Atari machines changing heads for less than \$20 there really don't seem much good and you'll need to use the real thing anyway to play the DOS, DOS was a work!

PACIFIST

Author

Frederic Gidoux

Email: frederic.gidoux@pacifist.com

Official URL:

<http://www.pacifist.com> - frederic.gidoux@pacifist.com

<http://www.pacifist.com>

Copyright 1995-1996 by Frederic Gidoux

Status: Software

Requires

Any IBM/PC-compatible machine running DOS/Windows. Real Atari ST to copy ROMs from.

Price

ShareWARE and source software, excellent documentation.

File

Profile to set up.

85%

MagnumST

Why do always have to do 3270S versions and the ST's Memory Management Unit (MMU) cannot handle more than 4Mb but it seems the increasing system requirements of newer applications has driven developers to come up with a solution.

Windows Implications

So how does the MagnumST and World The making solution fit over onto both Windows 3.11 and Windows 3.11?

- The existing 705 ROMs can be replaced with TOS 3.54 which supports memory above 4Mb, by simply plugging ROMs into slots provided on the Magnum card.
- Alternatively you can use Magic v0.11 or later because it supports memory above 4Mb. In which case you do not need to upgrade TOS at all.
- The Magnum card includes a supplementary MMU which manages memory above 4Mb. The original MMU handles all managing your existing memory.

Installation

If your processor is already socketed it should be to make. Plug the processor into the Magnum card then plug the Magnum into the empty processor socket. Consider anyone who has already installed an accelerator. Just plug the Magnum in compatible with the H80 208-640 and the P40 accelerators, my Addspeed accelerator claim work.

- If your processor is socketed to the motherboard you have two options.
 - Insert a socket directly on top of the processor and plug the Magnum into that.
 - Remove the processor and fit a socket to the motherboard then plug in the Magnum card and processor. If you ever plan to add an accelerator that is the best option.
- Unless you intend to use Magic! exclusively there is a cable to be ordered. The installation guide includes diagrams for the various models but those must be a job alone. The conversion has to be made to a 16-bit bus connecting to the CLU chip on the 16. Apparently the ROM 1 signal from the pin is also present on the TOS ROM chips. UK and ST pin all which might be easier to locate. Check this carefully before ordering.

- The hidden cabinet of the left edge of the MagnumST board indicates the position of the MMU connector PCB below the TOS.



Memory upgrade for STs which breaks the 4Mb barrier, Deryck Croker tools up for the job...

PC2 memory Single Edge Memory Modules (SEMMs) are used offering a maximum of 16Mb plus. For some development 32 Mb modules (see below). Currently 3270S machines are not supported. But that are waiting on it.

Adding upgrades



- I've used C sockets to open the MagnumST board above the MMU. I've used another socket to open the 68000 processor above the TOS ROM chips. One of which can be seen sitting out. This "stepping" fits in my TOS case.

1.4 recommended, entering one version upgrade already listed beyond ST memory is now known required. For example the MMU system driving the Alan (SLM) fast printers requires at least 16Mb. Also open from the H80 208-640 accelerator, which can scale up to 6Mb at TT RAM and accelerators only on the ST RAM.

However, if you adding memory upgrade includes a connector PCB which pushes into the MMU socket, you may find the Magnum-MMU hole the connector PCB and you have a choice to make.

- Britain the ST memory, and use CPU sockets as a system to clear the MMU and remove the computer/keyboard it necessary.
- Remove your existing memory upgrade accept the limitations of less ST memory and avoid having to replace your computer/keyboard.

PC2ing about

A disk is supplied which includes various utilities and documentation. The most important one is a small 400-label program which tells TOS RAM to use the Magnum memory on TT RAM. A utility is provided to modify program loaders so they are set to "Use on TT RAM" and "Mother from TT RAM". Another utility is used to select between a thorough, quick, or no memory check at all, and the memory level can be changed by pressing the (Space) bar. TT RAM is sometimes referred to as "Fast-RAM" but the Magnum card accesses all memory at the same speed as ST RAM. In 16-bit. Apart from some minor control loading utilities on the disk, there is also a few

EXPANSION OPTIONS

ST RAM	TT RAM	Total
1	4	5
1	8	9
1	16	17 (4* + 12*)
2	4	6
2	8	10
2	16	18 (4* + 14*)
3	4	7
3	8	11
3	16	19 (4* + 15*)

* 16Mb only possible after making an additional modification.

** 16Mb available as 32 68000 upper memory blocks.

for a look back at the possibility of having both Magic! and TOS 3.54 only a single year (1990) has intervened.

I had experienced problems loading this 16Mb floppy disks under Magic! but this was a bug in Magic! which is now fixed (Magic! 1.1 or later). The 68000 driver Extension Plus also requires a small tweak in its configuration file but apart from that the extra memory seems to be highly compatible and completely transparent to use.

Finally I'd like to thank Peter West of the Transvision crew for facilitating the installation disk and my questions to Andy 20.

MAGNUMST

UK Distributors

STC High Street, Bristol BS2 4TW, England
Tel: +44(0)1254 710788
Fax: +44(0)1254 205805
Email: stc@compuserve.co.uk

North America

Harvard Street, 19, D-20880
Aachen, Germany
Tel: +49(0)4240-61000
Fax: +49(0)4241 5140225
Web: <http://www.stc.com>

Local Information

Prices (including VAT, P&P costs)
Magnum ST: Unpopulated £55.

4Mb ST4: £64, ST4: £64, ST4: £114
UK TOS 3.54: £160, ST4: £114
68000 processor: £11, £11, £11
64 pin CPU socket: £2, £2

Pros

Large range files over load and there's plenty of space to run several applications and still be under a multi-tasking operating system.

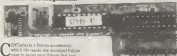
Cons

Magic! 5.11 or later on TOS 2.06 needed. Keyboard might have to be moved. Solitarius experience needed.

84%

CENTurbo I evolution 3 accelerator

Our German distributor, Thorsten Deutschke, installs a French Falcon accelerator and reports his experiences in this British magazine...



CENTurbo is a Falcon accelerator which fits inside the standard Falcon case to boost your Falcon's bus and the CPU speed from 16MHz to 32MHz and the DSP, FPU and MMU, to 50MHz.

CENTURBO					
Item	Value	Unit	Manufacturer	Value	Unit
1000 Clocking Rate	2.000	MHz	STMicroelectronics	1000000	Hz
1000 Bus Speed	16.000	MHz	STMicroelectronics	32000000	Hz
1000 Bus Width	16.000	MHz	STMicroelectronics	32000000	Hz
1000 Bus Frequency	16.000	MHz	STMicroelectronics	32000000	Hz
1000 Bus Voltage	1.800	V	STMicroelectronics	3.300	V
1000 Bus Current	1.800	A	STMicroelectronics	3.300	A
1000 Bus Power	1.800	W	STMicroelectronics	3.300	W
1000 Bus Temperature	1.800	°C	STMicroelectronics	3.300	°C
1000 Bus Resistance	1.800	Ω	STMicroelectronics	3.300	Ω
1000 Bus Capacitance	1.800	pF	STMicroelectronics	3.300	pF
1000 Bus Inductance	1.800	nH	STMicroelectronics	3.300	nH
1000 Bus Impedance	1.800	Ω	STMicroelectronics	3.300	Ω

It then syncs with BIOS loader sensors immediately with memory.

An eight-page full manual details the installation procedure and CENTurbo also displays when you boot a warning that you can't install the upgrade while in a crash-recovery state.

They estimate a timing boost of 30 minutes. A hardware switch enables the accelerator to be switched between normal mode offering the standard Falcon configuration, and turbo mode which is also available for VGA, VGA and VGA/486 monitors.

Software

In addition to the installation manual you get a separate software manual and a floppy disk containing the following software:

- **BIOSware:** An Aegis loader utility to show the BIOS down to 128MB (because it doesn't fit in long acceleration).
- **AcmeMark:** A disk loader reader utility to monitor the running center and avoid (and) perhaps during boot log.
- **CDTware:** A file viewer which supports more 50 different image formats.
- **CDTware:** Utility to select between screen resolutions.

- **CENTurbo:** Utility to configure the

ACQUISITION

- **CENTurbo:** To benchmark your system up market and really improve your (or) memory.
- **CDTware:** Utility to manage the MMIO settings.
- **General CPU:** Utility can be used to toggle the CPU mode output.

CDTware

The CDTware software offers some power resolutions including: 640x480 (x10) at 48Hz, 640x480 (x10) at 50Hz, 640x480 (x10) at 50Hz.

- 640x480 (x10) at 50Hz non-inverted.
- 640x480 (x10) at 50Hz non-inverted.
- 640x480 (x10) at 50Hz non-inverted.
- 640x480 (x10) at 50Hz non-inverted.

For wanted the virtual screen mode is to be used if you are up virtual screen. For more please see the manual.

CDTware

Using this utility it is possible to create a new resolution which will be reliable for selection using CDTware. To do this you have to select the horizontal and vertical refresh rate and the screen size.

CENTURBO			
1000 Clocking Rate	2.000	MHz	STMicroelectronics
1000 Bus Speed	16.000	MHz	STMicroelectronics
1000 Bus Width	16.000	MHz	STMicroelectronics
1000 Bus Frequency	16.000	MHz	STMicroelectronics
1000 Bus Voltage	1.800	V	STMicroelectronics
1000 Bus Current	1.800	A	STMicroelectronics
1000 Bus Power	1.800	W	STMicroelectronics
1000 Bus Temperature	1.800	°C	STMicroelectronics
1000 Bus Resistance	1.800	Ω	STMicroelectronics
1000 Bus Capacitance	1.800	pF	STMicroelectronics
1000 Bus Inductance	1.800	nH	STMicroelectronics
1000 Bus Impedance	1.800	Ω	STMicroelectronics

The package in general package our role applies here and if your system display just before you press the [Esc] key and try again. The CDTware and CDTware programs are built easy to use after 3 min. and there are plenty of pre-defined resolutions included.

In use

I ran my Falcon primarily to program and to produce the German supplier to the German Computer using 16MHz 100 Series. I have the monitor in the only program which doesn't work as it did before.

First, I ran it which I use to copy the data from my computer to the monitor. I have many very nice German software.

Before getting the CPU mode has to be turned off using one of the standard Falcon CPU's. A copy of which is included on the disk. On the disk with the monitor with CDTware at 640x480 resolution, make the monitor page can be displayed and most of the time is still visible.

CENTurbo is compatible with Falcon and using the virtual screen software you should work on a screen mode at 640x480 resolution which automatically as soon as the monitor mode the side of the screen.

To really show off the CENTurbo I wanted a program which really pushes the screen to the limit and I used the latest version of Running the Disk Store Game (TM) - from the Running developers where improved to see how fast their game was.

The CENTurbo accelerator is very reliable and as shown in the disk I use my Falcon. The CDTware developers CENTurbo have the experience to make reliable hardware address so we can look forward to the CDTware II featuring a 640x480 CPU and the Falcon 100/100 Falcon computer (or) upgrade. ☐

CENTURBO

Manufacturer

CENTURBO

4 rue St. Eugène

10180 Nogent-sur-Seine

France

Tel: +33 3 44 74 83 36

Fax: +33 3 44 74 83 40

Mail: centurbo@centurbo.com

Price: 694 FF (suggested \$75)

Free

Full time to install

Cost

Must be turned off to use a low resolution program

85%

THE BEST THINGS IN LIFE ARE...

One of the most powerful computers (ATC-1 and 1.5 compiler) is available for free of charge. Unfortunately it is not a GEM application so you need to be comfortable with working from a command line interface. A good MMT based system does make things easier and if you're not enough that's great. It is possible to install MMT and toC in one go along with lots of other Unix like programs. Look for MMT (Don't a GEMM MMT Distribution).

Alternatively there is another command line based compiler called Socrates C. Needs minimum 2mb for Socrates C, other installation requires and better GEMM MMT. Of course you'll still need library manuals or the manuals to work through the supplied documentation and header files.

Debugger

Debugging utilities typically display compiled machine code in an assembly language form and allow options to step through the code via instructions at a time or set it to run and it enables a particular line, such as the ability to view the contents of the memory registers, the stack, the status register or any other part of the machine's internal. Debuggers are hard going, requiring an understanding of the workings of a microprocessor and comprehension of the inner mechanisms of assembly code. Nevertheless they do provide the last line of defence against persistent bugs.

Lattice's debugger MAC enables the assembly language and the C source to be viewed side by side but all the real work has to be done at the assembly level. Now is very powerful but establishing the code level has severe negative of looking at assembly code. The header instructions have likely to put these off.



▲ Lattice 3 general options screen and there are another three of similar complexity

Prospero is a debugger is less powerful but does offer enough features to be useful and benefits from better online help. At first it seems a little too clean cut but on closer inspection there is more to this debugger than meets the eye and we all ended up preferring it to Mac for 'free resources' debugging stations.

Prospero's floating point support is fairly new feature, compared with Lattice which support a direct every combination of hardware and software including the odd trigonometric value of the MMT/1.

Outdated Resources

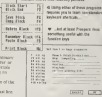
Both Prospero and Lattice are capable of producing GEM applications. Lattice includes the MMT/1 resource and header files.

Prospero supports K Resource for Amiga which is available as part of the Developer's Kit although this costs the same as the compiler itself.

MTBC is unfortunately for simple GEM applications but its interface does become tedious when working on large projects. It hasn't been updated recently and although it does support the 3D look there is no



▲ Lattice 3 project manager shows working with multiple source files interdependency



support for TOS or colour mode or ability of the enhanced GEM objects we've come to expect in modern GEM applications.

K Resource is even older than MMT/1 so we were still expecting much less. It was pleasantly surprised to find a new interface that made the picking and placing of objects simpler than ever in a right-click popup and a drag and drop system. Although without you're before the advent of TOS+ the programs have the templates to create clocks, bars for the extended object flag which means if you have what you're doing just can create the 3D look fairly easily with the 3D.

LATTICE C V5.5

Publisher

Lattice

Contact: +44 (0)1805 718181

RSP: \$85

Requires

1 MB memory OS floppy

Price

More power than you'll ever need. Probably

Cons

Difficult to learn. Can appear outdated

80%



▲ Lattice 3 debugger shows how to set up the debugger and the extended object flag

supported. However, with the availability of hardware and Resource Manager purchasing cost of these instead of the Developer's Kit might be a better option.

And the winner is...

It was surprisingly difficult to choose between these programs because they will support to GEM and code of the market. For the reason that comparing flexibility it has to be Lattice.

In some respects Prospero shows completely closer to Lattice despite the considerable earlier age. Unlike the lack of a memory editor might seem a bit better if the user prefers to use an alternative if you're just starting out and want the support of a GEM interface and the support of some excellent software. Lattice Prospero is a GEMM.

PROSPERO C

Distribution

CompuLink

Contact: +44 (0)1352 535500

RSP: \$10.95

Requires

Any Amiga OS floppy

Price

Clear and simple interface. Small enough to use from a floppy

Cons

Lack of flexibility as resource is still a

75%

PROSPERO DEVELOPER'S KIT

Distribution

CompuLink

Contact: +44 (0)1352 535500

RSP: \$10.95

Requires

Any Amiga OS floppy

Price

Clear and simple interface. Small enough to use from a floppy

Cons

Up to 100% support for the age old

60%

POWER Products

from:



Music Software

Cybernet Audio Falcon...	£399.00
Audio Tracker...	£149.00
CD-Recorder Pro	£199.00

Music Hardware

SPDP	£179.00
Internal DSP	£189.00
Analog II	£299.00
SNP II	£299.00
MM1	£199.00
Combiner	£59.95

Power Hardware

Afterburner240-LC	£399.00
Afterburner240-EC	£499.00
C-Lab Falcon MK-X	£599.00
Complete with 2GB RAM, no HDD	
C-Lab Falcon MK-X	£499.00
Complete with 1GB RAM, no HDD	
MX-X case upgrades	£199.00
HAB240 240/280... from	£1999.00

Monitors

14" SVGA monitor from	£139.00
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17" SVGA monitor from	£369.00
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HP Colour Deskjet from	£149.00
HP Laserjets	from £369.00
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32-Mbyte - 230MB	£199.00
230MB cartridges	£19.95
130MB cartridges	£16.95
Stylet - 1.5GB	£499.00
1.5GB cartridges	£79.95
IBM 720MB 3.5" HDD	£149.95

All prices include VAT, carriage extra

CD-Recorders

Philips 240	£349.00
Philips 240 Kit	£389.00
Philips 240 External	£429.00
Sony 240 Internal	£399.00
IDE interface with software for PC only	
Toshiba 240 Internal	£325.00
latest model with PC software	
Normal 2x240 kit - available !!	
Internal hard drive	£535.00
Internal drive kit	£559.00
External drive kit	£599.00
Pioneer 2x240 SCB	£169.00
Pan/Toshiba 15x SCB	£199.00
External Case	add £69.95

SCAN SOLUTION

Minotek Scanmaker 83.
Colour flatbed scanner,
300x400dpi with software!
Suitable for ST/TT/Falcon, etc.
only £219.00 !!!

(see back page for more details)



APEX Media v2.41	£79.95
APEX Intro v2.41	£29.95
Intro to Media upgrade	£50.00

Other BSS Products:

Memetics accelerator	£29.95
Video screen enhancer	£16.95
POWER PACK	£29.95
APEX Intro, Memetics, Video!	
BSS Debug v2.0	£29.95

Software

GA's Layout v6.1	£199.00
100% tested introductory offer !!	
Genova (v6.1004)	£39.95
Powerful multi-tasking software	
NorDisk	£39.95
The original Desktop replacement	
GRAPHIC - REDUCE BUNDLE	
	only £79.95
Archangel Pro	only £29.95
Connector Pro	£79.95
Stalker	£39.95
Stone	£24.95
Thought!	only £49.95
Ultra powerful, simple but simple to use	
Used for development work of any nature	

Other Products

Link 97	only £49.95
Great new AC23 to SCSI adapter for the	
Alien 17 range - all the latest price paid!	
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32.6K external modem	£79.95
32.6K external modem	£199.95

This Month's Special

Falcon 14MB
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£99

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Titan Designs Ltd

4 Wetherford Way, Selly Oak
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Fax: +44 (0)121-414 1630
e-mail: TITANDES@compuserve.com

See our link page online
for other Alien products

<http://www.world.computersave.com/homepages/TITANDES/>

RUNNING MINT

- Type MINT 11E or later to your Auto dealer.
- Muncie protection must be switched off on the merged MINTEMP PEG.
- Make sure MINT/MINT PEG is the last type before program is run.
- LAMIN POL and MCDLAMP (if you're running Nemeritis) should still be run from the Auto dealer before running MINT/MINT PEG.
- When running MINT before you should be sure to run the Auto dealer's Muncie Genes as described by adding a line to MINT PEG which normally reads to be the next directory of your boot disk.
 .JOB -2000 PATH DATA MUNCIE.PEG
- Make sure there will be no lines on MINT PEG starting with TEST.

10

To avoid having two copies of GONCALVES on your disk remove GONCALVES (which internally existed on your hard disk) to GONCALVES or use a good database to do so that the from MONTI.COM instead.

Growing businesses consider development by Gary Wiggs of Oxford Software Ltd using the Information In Stage, for corporate looking for a reliable multiplatform, crossmedia website.

I'll also avoid Genovese users who have kept the leftists from the early releases and led by being told Genovese is inferior to Mafiosi because it's "only a co-operative, 2004-talking system" (not to let this technical difference worry you. This would be tantamount to benchmarking the difference let alone racism in everyday working environment, ignoring the release of Genovese release 4 Genovese does support preprocessor maintaining used together with MAFI for anyone who really needs it. *Genovese*).

This adds up to one helluva operating system. Assembly-style system features have been inspired by previous versions, but now what does Creative come with out-of-the-box?

This adds up to one helluva operation system.

UPDATES

```

% Create a 1000x1000 random matrix and set it
% after pair it is dimension 1000x1000
% Generate a 1000x1000 matrix with uniformly
% distributed entries in [0,1]
[LRN, b] = randn(1000,1000)/sqrt(2);
% 0.000% 0.000 1.000 0.000 0.000 34.000%
% 0.000% 0.000 1.000 0.000 0.000 23.000%
% 0.000% 0.000 1.000 0.000 0.000 10.000%
% 0.000% 0.000 1.000 0.000 0.000 20.000%
% 0.000% 0.000 1.000 0.000 0.000 22.000%
% 0.000% 0.000 1.000 0.000 0.000 22.000%
% 0.000% 0.000 1.000 0.000 0.000 22.000%

```

Geneva 6

Key Beardsworth reckons the two recent Genex releases have put Genex back on the map.

After this improved pre-emptive notification support was added together with MMT (which should give MMT a new lease of life!) One has added a Process manager, similar to one found in Magic, and added a number of enhancements to the Task Manager including mouse flag, flag to the program flag, which can be used to force programs to behave themselves.



I suppose Google release 8 will be seen as a massive upgrade when compared to 5, by many but there is evidence Google is finally being taken seriously in Europe. For example, the latest Thing devices have a new Google compatible? This has to be seen as a break through because for the first time Google users will have a choice of devices. The combination of Google and Thing with its comprehensive API server abilities should prove a tempting combination for private users.

If you bought an earlier Green version and it is now being discussed in a dark corner of your system get hold of the new upgrade pack as, and I hope I am if the previous version, I believe it is worth it and a lot

GENEVA 6

Publication
Continued from page 10

US distributor
Team Design
8 Wetherford Way, Seely Oak
Birmingham, B29 4AQ, England
Tel: +44 (0)202 683 1666
Fax: +44 (0)121 414 1870
Email: info@teamdesign.co.uk
URL: <http://www.teamdesign.co.uk>
Cost: \$59.95 or \$79.95
Handled with: NeoDesk 4

Keywords:

Price
Very low memory usage; now works with 32-bit systems (reviewed)

Answer:
Please carefully read and fill in the appropriate box.

90%



26. *Answer: A* There is no truth in the statement. The word "possibly" can be read in a straightforward

Apart from the usual sprinkling of new features the main thrust of these Cerebras suggestions is to add reliability and support for emerging standards and this release is another step in the right direction with

supported the film "Tomb Raider" in a bid to "draw attention" away from the 9/11 attacks, said the London-based filmmaker.

* The Census Bureau Manager appears to be a good individual. Most of our work will need to be done

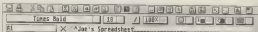


Required
Agree about maintenance work to do
1 mile or more.

Price
Very low memory usage, now works with 32-bit systems

Close
Please carefully inspect and fill in.
Copyright © 2000, 2001

90%



■ The numbers in the left-hand column have been entered into calculation cells in the right-hand column, with the option to expand empty cells at the end selected.

TExcel concludes the details of a brief editor. What is noticeable is calculator and simple BIFF packages in a single application. TExcel is the perfect solution for maximum robustness or built which need updating or saving periodically especially if there is any multi-tasking. I try not to update spreadsheets to manage the interactive software but, and in emails and later, find TExcel for on-off tasks I would normally have performed using a calculator, pen and paper.

Beta entry

Can it breathe includes the own menu, tool and function bar which means everything is in TExcel and you don't need to access the menu since you're in the menu bar. BubbleGum would have been available here but that is currently only available to the German release.

Spreadsheet reads with 'data entry' which can create new or imported data, separated into rows and columns as desired. At least one data cell is always visible and a context is displayed on the toolbar input line (to the right of the row and column). Using this line, data can be entered or edited and any changes made are displayed in the selected data cell.

Spreadsheet can be entered online from text with using the toolbar, not online pattern and two options to achieve an alternative layout. TExcel really comes into its own when these options are combined with the powerful 'Visualisation, Interactions and not features'. I will find a method which - almost totally update these features after a potential data entry or edit.

SPREADSHEET USES

- Visualising documents
- Visualising budget management
- Visualising your status
- Simple graphical presentations
- Graphical analysis/visualisation



However since both of these are currently only available in German we'll leave this subject for a future article. Support for customers, apart from German users, is limited to one user. The entire test function is highly fast, there is no cloud or no backup at a potential application. Thomas is aware of these minor problems and with TExcel 3.0 development already underway, it looks certain. All this number entered on the table.

File editors

Functions are available. TExcel uses to read columns in the and away the most frequently used function.



There are found to be problems reading data and TExcel handling - 'visual errors' - although, because of displaying on a grid, text, data, line and point, and a coded row, some of the data is visible. There are updates in the manual.

Most of my data is in TExcel which is well suited to the TExcel. Using the CSV import option, I connected a large database to TExcel without problems and it should be easy enough to import CSV data from most packages.

TExcel is a GEM (GEM) which means it's not a 'visual' in TExcel spreadsheet.



TEXEL

Features

100%

100% Features

100% Features
Contact: +44 (0)100 899 1000
Cost: \$59.95 (Introductory offer), normally \$79.95

Requires

Any Atari with at least 1.5MB free memory and 800Kb (ST high resolution or higher) 1000K (or replacement) hard disk and full Windows OS recommended.

Free

Full Windows, with TExcel Spreadsheet, powerful tool or file list at right-hand corner.

Easy

No English BubbleGum or TExcel help, no hard import/export or Lotus 123 export. Easy (1) and (2).

89%

Les Animaux and Les Dinosaures

Les Animaux and Les Dinosaures are games designed for children and adults to use. How could I possibly thought I was the ideal software to review these? But I thought back and I would give my kids their top review as consultant and in them tell you what they think while I watched over their shoulders and took notes.

The idea of the games is to match the top and bottom half of the various animals or dinosaurs.

Both games are visually appealing on HD Supergraphics with sound effects and music. Les Animaux and Les Dinosaures are the disk which works like which is to add the loading you are greeted by an elaborate scene of reasonable quality and both programs allow the background music to be selected from a choice of three.

The idea of the games is to match the top and bottom half of the various animals or dinosaurs.

All Good, with a little help from Sara and Rachel, take a look at some educational programs from France...



SARA...

Les Animaux are now through the eyes of Sara Gold, aged nine...



I think, Les Animaux is really the only that I can get the top half of an animal with the bottom half of another animal. I think the SWANING (the top half of a swan and the bottom half of a rhinoceros) or the RHINOSWAN (rhinoceros and swan).

I like the way you can change the music to any two or three. I like too much from the first.

I think it is really a couple of years playing for me, but I don't care. I will like it. I really hope you like the game as much as I do.

With 14, 15, 16, and 17 animals per of the bottom half of the screen appears from the French side of the game.

In addition to adding up the pictures both games also add up their names on the top half of a screen matched with the bottom half of a box becomes a "DINOSAUR" and the same pattern which didn't quite make it across the previous page both the girls found there is funny.

Picture can also be displayed as the drawings and "Unlabeled" or by entering a color from the palette then entering an area to fill.

On occasionally starting the current top and bottom halves another option is possible. If Les Animaux will let you find the picture where Les Dinosaures display a screen telling you a little about the dinosaur itself.

Both programs allow you to see to be saved to a floppy disk as PPT format also on the French or English law as PPT format and these can be converted and output using languages or other suitable software.

I am extremely happy programs for as suitable for children up to an adult seven years and last half of all ages and find it amazing for a child. The programs are as suitable as any other game should make they are useful. Montreal is open to you.

RACHEL...

Rachel Goodall aged four, likes all Les Dinosaures.



I like the game a lot because I like Dinosaures. I can make up the pictures and it is a lot better than paper and crayons because it's easier and I don't go over the lines.

I can click on the screen and mix up the dinosaurs top and bottom halves. It is so easy it is easy to use. I just click on the screen to change the pictures with the mouse. You can make the dinosaurs as you want you want.

I've played quite a bit with it since the new one gave me it. I like the computer game. I like the talking about the dinosaurs.

I've also played with the Animals game that Sara has. It's like my game but I like the Dinosaurs better.

LES ANIMAUX & LES DINOSAURES

Age Group

3 to 9 years

Publisher

PRG

Supplier

16/47 Systems
Telephone: +41 (0) 04 11777
Email: 16/47systems@prg.ch
Cost: \$19.99 (each)

Requires

16-bit HD Les Animaux includes NT version on HD disk

Price

Simple to use. Simple younger children's paper keeper

Game

16-bit Macintosh compatible

80%

The right consistency

In part 5 of this series, Xav looks at user interface design, and throws down a multi-player gauntlet...

Over the past three issues we've reviewed the Jaguar joystick on both a hardware and software level. I've explained how they work, how to read from them, along with a couple of tricks to make life a little easier. The one area we haven't covered is consistency.

We are all used to a consistent user interface in GEM, but it also pays to think about the consistency exhibited by your own programs. Most programs using joysticks will be games, for which consistency tends not to be considered too much, but a little attention to detail can make life far easier for the player, and make them more likely to return to your game again and again.

A quick look around the Atari and Falcon games that already use joysticks reveals very little consistency. Almost all Jaguar games, on the other hand, conform to a small selection of simple rules which are equally valid for other games using the joystick. These are as follows:

- The main fire button should be button B. The reason is simple: from B it is easy to move to A or C in order to trigger other events. If your program only needs one fire button, then let the user press any of them if aware; then it is far easier to allow them to select which buttons are assigned (if which functions from an options screen).
- The Pause button should pause the game. If this is an option, ideally this should display a message to that effect, though many Jaguar games allow you to resume the message (after leaving the game paused) by pressing A and B simultaneously. Pressing Pause a second time should un-pause the game - if a surprising few camp programs ignore that one.
- If there's music in the game, and if the music can be turned off, it can be

music toggled should toggle this option. The volume of music and/or sound effects, if configurable, should be set from an options screen, usually accessed by pressing the Option button.

- For those few games which use the Option button as part of the game logic, the options screen should be made available if the user presses Option whilst the game is paused.
- Pressing " and B simultaneously should reset the game. I.e. "load the current game" but not "quit the program".



This should take place before testing the B to toggle the music, as at least one of the forthcoming projects scrapped on hardware by making it look like all these buttons are being pressed in order to toggle a music.

- If the logic of your game would benefit from a second other support then add it as an option. The extra decoding is minimal and your users will appreciate you for it.

Teaming with players

Some of you may have noticed a certain amount of redundancy in the joystick design. We test four banks of switches by using four data lines, but isn't that a bit wasteful when two binary lines could be easily decoded

into the four we require? In fact, from four lines we could decode up to sixteen banks of switches.

Which is exactly what Atari's "Team Tap" does. By fully decoding the four lines it allows up to four joysticks to be used from each EDP. All that happens is that previously "undefined" signals such as GEPF3, now refer to a specific bank of switches (slot A, tap C group 4 in this case). Using a pair of Taps, therefore, it is possible to read up to eight joysticks between the two EDPs. Now does anyone want to write a Falcon version of Gator 6?

The Team Tap was supplied "free" with the Jaguar game "White Man, Don't Jump" and was also supposed to be available separately. I've never seen a sold as a standalone device, though so in the next issue we'll look at how they actually work, as that you can build your own. If you don't

at present selling them with the bundled game for less than twenty pounds or so, however, I would recommend buying one - even if you don't have a Jaguar, as the parts themselves cost about half that, and then without a nice box to put it in. One of the go at things about the Team Tap design is that the joystick which is plugged into the first connector behaves in almost the same way as one plugged directly into the machine.

Certainly if all four groups of switches are read separately, there is no difference - so the Tap can be left permanently plugged in. The only problem arises when trying to read more than one group at a time (see last issue) so you should avoid this trick in your programs unless you're sure that the user doesn't have a Team Tap.

Next issue...

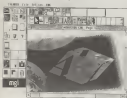
We'll start looking at the Team Tap hardware and how it works, eventually arriving at a design that you can build at home. If you've got any plans for multi-player games, now is the time to start, shutting them off. ☺

Calamus SL® 97

SL Upgrade or Re-Birth?

MSI Software Corporation, the Canadian company now behind the famous DTP package, has finally released the English version of the long-awaited Calamus SL upgrade.

The production of this major upgrade has been brought about by the arrival of a new development team in the shape of Image Media who have been hard at work bringing a new look to the Alan version of Calamus by including a lot of up-to-date features. Please contact us for our specification sheet and demo version (£1.00 charge for this 2 disk demo).



The SL97 Full Package (Image Media's 1997) £ 179.00
 (An Irresistible Price is Available from 1st November 1997 until the March 1998)

SL97 to SL97 Upgrade	£ 109.00
SL97 to SL97 Upgrade	£ 139.00
1.09n to SL97 Upgrade	£ 169.00

Seeing is mind the fact that Calamus 97 now includes eight modules which used to be available only at extra cost. These upgrade prices are better value than ever.

To qualify you must return your original master disks with serial numbers together with your remittance. Any disks posted to us should be sent Registered Post with Insurance. IMAGE Applications cannot take responsibility for any disks lost in the post other than those we dispatch to you which are insured in July 1998.

MSI's policy is one of continuous improvement and they reserve the right to vary specifications at any time without warning.

All prices include VAT and include to Class Registered postpacking within the UK. Please mark all Cheques / Postal Orders payable to "IMAGE Applications".

PLEASE NOTE: As all upgrades and additional modules have to be supplied direct from Canada, we please allow 28 days for delivery.

image
 applications

Unit 3, Waterbury House,
 Waterbury Castle Road,
 Oxted, Kent, UK, CT14 7HG

Tel: 01894-69-1254/68564
 Email: calamus@uk.computelink.co.uk

Calamus[®] Ultima[®] CD-ROM

Here are 6 Reasons for buying this CD:

- Over 3000 Colour CVD Images
- Over 6000 Mono CVD Images
- Over 500 In-House CVD Fonts
- Over 600 PD-CVD Fonts
- Volume 1,2,3 User to User SL Hints
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(This pack includes Calamusware, Reader Settings - GDI+ Integration, Custom Gamma, Desktop, Fonts and more)

Also included is a library of Calamus Related Demos and PD/Shareware Programs / Utilities.

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calamus[®]
 1.09n
£ 35.00

Recently described as the 'Ultimate' package for beginners, IMAGE Applications are offering a limited number of the older master version, Calamus 1.09n for the one off price of £35.00.

This unique offer includes the 1.09n program, our own 1.09n Productivity Pack and the Easy To Use Guide.

little.gif

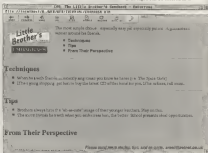
Format	GIF
Color resolution	128
Resolution	88 dpi
Width	472 pixels
Height	144 pixels
Colors	256
Palette	262144
Image size	69120 bytes
File size	8216 bytes
Size ratio	12%

■ Images are listed in order of the size of an image

The header is created using a small table, with the site graphic in the first cell, and the text in the second. The site graphic is made up from two separate graphics: a reduced version of the main site graphic with the classification graphic underneath, both received from the front page. Reusing graphics makes sense because they'll already be in the readers local cache, saving download time and speeding up page display.

Each section has a heading, followed by an unordered list containing the individual topics relating to the site. Each topic can be entered as a

The contents for each text cell is straightforward. An image at the top directing the classification, followed by a short description. Each image is a link to the subpage of that classification, which is achieved by creating the <tag> inside the opening and closing link tags. I've aligned and centered all the cells in the table to the top of each cell using ALIGN="TOP" VALIGN="TOP" inside the table row <TR> </TR> <tag>. If you didn't feel able to create your own tables manually there are various "editors" starting to appear



CREATING TILEABLE IMAGES

Tileable images are commonly used as background images and there are various techniques to make sure the image tiles seamlessly.

The simplest technique works well for most images.

- Create your image (say 50x50 pixels)
- Paste a copy of the image adjacent to the original
- Repeat the job so it tiles continuously
- Create a second 50x50 pixel image which includes the seamless join
- Repeat this procedure vertically to create the final seamless image

which can create these for you automatically.

The last item to add to the index page is a contact address for people to send comments to - a simple "mailto" link is all that is needed here.

Subpages

The subpages for this site are all identical in layout, just differing in content. The basic page includes a header, three main sections which utilize different techniques, tips and stories.

Each header contains a small site graphic followed by an introduction followed by the introduction will be bookmark links to the different sections, which are useful when creating lengthy pages as they help minimize horizontal scrolling.

separate list item, which offers a clear layout and is easy to maintain. The heading is enclosed in a bookmark section, which is referenced by the links at the top of the page.

Each section is separated by a horizontal ruler and finally, at the bottom of the page, I've added another small link for people to send in contributions.

This completes the site framework. All that's left to do is add in the stories and upload the pages to a web server. The pages can be updated from time to time to include other peoples stories and tips added onto the end of the appropriate files. If you'd like to view the final pages they're online at <http://www.surrey.ac.uk/~cmr/ltb/>

The "start" files are also included on the Reader disk. ☺

Corner

GEMMA

Let's meet the
captivated GEMMA
about GEM

objects to be used
from within STOS.
There is still a lot of
work to do but the programming team
(including Anthony Jacques and Paul
Joris) have been working hard and
v1.52 is the very first beta version of
GEMMA to be completed.



What can GEMMA do?

It is now possible to run programs (even
within XTOS) which display the GEM
desktop along with a working window
for (including accessories). Programs
can display GEM icons, dialogs fully
working GEM windows, and the GEM
file selector.



Selecting the menu bar
that operates allows you
clearly to see the editor - an
amazing feat! The
screenshots give you an
idea of what is possible and
as a bonus GEMMA also works in
extended screen resolutions including
640 colour modes.

GEMMA in action

Up to v1.52, the GEMMA accessory
must be active to enable STOS
programs to communicate with GEM.
The GEMMA.BRM file contains the
amount of memory returned to GEM

Once in the STOS
editor, example
programs can be
loaded and run.
Notice the possible
\$0000 at the start of
each program; this

contains the code which
enables programs to use GEM.
This code is included in the
GEMMA distribution as
INCLUDE.ABC and can be
merged into your own
programs. On running the
program the STOS mouse
pointer is replaced with the
GEM one; then attempts to switch to
the various screen resolution before
entering STOS and displaying the
desktop. On exit, this process is
reversed.

The GEMMA-STOS loader will under
development, no longer requires the
accessory to be installed and it doesn't
grab all the available memory on
loading - since it exists as
development continues.

What could I use GEMMA for?

I have met a number of users yet
(because there are too many
changes to the program) so I'll

- A GEM using a 640 colour resolution
- The menu using a 128 colour resolution



stick to your uses of GEMMA in the
STOS development environment.
Here is a couple of examples, you
can find these both on the Reader Disk
to demonstrate some of the
possibilities. If you produce any
finished STOS accessories, please do
send them in and we'll include them
on the Reader Disk.

- WONTTEST.BAS (see screenshot) is
the source code for an
accessory to
browser files using
the GEM file
selector, maybe a
Print option would
be a useful
addition?
- GEMBACKSLASH is
the source code

- The GEM file selector
from within STOS

Look: File Examples



- Drawing a 640 colour picture via the GEM

for a STOS accessory to enable
"proper" GEM accessories to be
used before returning to the editor.

The future

GEMMA-STOS is under development
in parallel with the extension tool and
hopefully a complete version of the
extension will appear when
development begins. The
programming team are also looking at
including comments to make it easy to
use GEM, maybe using the general
comments instead of various number
for specific comments, nothing has
been decided yet - but I'll keep you
informed.

Item 2

After some correspondence from
Steve and other valuable help from
Anthony Jacques, Paul Joris, I
looked into the STOS/GEM software
team will be able to make Item 2 fully
Palma compatible. I've been testing
this on my hardware and the team have
even added loads more software to
the program - all very promising!

New STOS loaders

Work is progressing on producing new
STOS loader programs which remove
the need for programs to be loaded at
all, even without using the compiler
then. Work is also underway to
generate STOS to return to the
desktop clearly in extended Palma
resolutions, rather than only the 640
compatible ones. Stay tuned for more
news and Reader Disk announcements! ☺

- STOS Test file browser using GEM



Look: File Examples





CURRENCY CONVERTER

Business
Shareware, all Atari

79%

Currency Converter programmed by Mario Rezzati in New Zealand, is a useful utility to convert between any two currencies.

The consumer must need to be "traveling" to set-up your currency in the "base currency" (the Reader Quiz version is localized for the UK) because the conversion rates for other currencies depends on this.

CC can only ever be used as a rough guide because currency rates fluctuate constantly. (It is more pain than it's worth but I'd better mention it anyway) Using Internet as the internet it's easy to keep track of the currencies you're interested in.

In addition to editing existing currencies, new ones can easily be added and it is also possible add new items to the standard column from MCC file using Interface or ResourceMaster.



Once set-up CC can automatically add or subtract VAT/Goods tax and the results can be pasted directly into your word processor, spreadsheet or other GEM application via Gough/loop and the AV protocol. ST-Quote format hypertext documentation and

BubbleGEM help is provided. CC is shareware and registration costs \$10 via InterActive. Registering any of Mario's software, optional entry registers you for the lot and the collection is included via the registered user master disk.

Joe Connor



EVEREST V3.6BR4

Word processing/Utility
Shareware, all Atari

95%

Everest is a fast, easy-to-use and versatile text editor which has established itself as one of the most popular shareware text editors on the Atari platform.

As a general purpose ASCII text editor Everest doesn't concern itself with typelaces, point sizes or page layout options which makes it fast. This latest beta release has grown in stable as previous full releases and includes several

- Instant web actions
- Have been testing for
- Everest supports long filenames with spaces
- OLGA protocol support. Everest is an OLGA server which makes it ideal for use with C&B



TWO-IN-ONE

Utility
Shareware, all Atari

77%

Two-in-One is a general purpose archive manager capable of handling ZIP, LZW, ARC, ARJ, ZOO archives and associated named by calling external TTP programs. The individual TTP programs are widely available separately. Sadly TransTime

development has now ended but the author has made a public key available to get rid of the tag services during the evaluation phase (an exclusive Atari Computing key is included on the Reader Quiz). Registration costs \$10 via InterActive in exchange for which you get a

personalized key and master disk containing all the TTPs and associated utilities.

- My own work & testing system for
- My home machine - tested

Joe Connor

- One character abbreviations (Xmarks) are now being expanded immediately without having to press the [Esc] key. For example with an HTML abbreviation like having typing a pound sign "£" is automatically expanded to the HTML standard "£"
- Abbreviation files can be unloaded on the fly.

In helping with Everest's extensive approach there's no CD design ST-Quote or BubbleGEM help but the ASCII documentation is concise and well worth a read. Registration via InterActive costs \$10 for a key to remove the opening nag screen.

Joe Connor



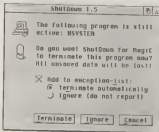
SHUTDOWN V1.5

Utility
Freeware, all Ages, MacG

91%

Shutdown programmed by Alexander Petrov. It is an enhanced replacement for a utility of the same name supplied with MacG.

Various enhancements are on offer:
• Ability to record the shutdown process



- Prevents a warm or cold start
- Boots in TOS (Not MacG/Mac/PC)
- Has a default procedure after all other programs have been terminated. For example, a backup utility or RAM file filler

Installation of a straightforward replacement of the original MacG utility used as an added option by selecting the Shutdown menu entry from the Desktop. Apart from MacGlow, Thing (except Macintosh PRO/SE/MP as the Thing folder) and Jazzer are recommended.

Some programs, usually older ones, do not respond to the shutdown request and MacG uses the latest SHUTDOWN.PFR to handle such programs. Shutdown supports MacG's SHUTDOWN.PFR and offers various options to force programs to terminate or be ignored completely. SHUTDOWN.PFR can be manually edited using any ASCII text editor or automatically. When Shutdown encounters a problem program it displays a dialog asking you to select your desired action and this information is automatically logged to SHUTDOWN.PFR text.

The "Restart in TOS" option works by running MACRODOST.PRG to MACRODOST.PFR and it's necessary to restart this procedure to re-enter MacG mode. Although it's easy enough to restore this from a boot manager on the desktop, a small utility called DOSTART is included which does the job efficiently as long as you have VDUALGO.PRG installed in your AUTO folder.

Just in case you're in doubt, what each option does Shutdown also includes AppleLink help.

Shutdown is a useful and neat utility which has proven reliable in everyday use and is thus recommended.

Thanks to:

Info: shutdow@macg

URL: <http://www.classic.com/alexander/petrov.htm>

Mark Alexander



TEXT ANALYSER V1.9.2

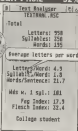
92%

Word processing
Freeware, all Ages

The underlying Text Analyser code was programmed by Dr. Alan Cook in then Gifford up by Dan Ackerman. Memo Macrow has totally reprogrammed the GEM interface to support modern GEM standards including Drag/Drop, icons and SubEditGEM support.

If you're prepared to face the results of a more computer program simply load up your manuscripts and take your toll.

Text Analyser digests your efforts then presents the results in a neat display including the easy-to-read FOG and Fench readability calculations along with an American high school grade and other statistics. The FOG index is a measure of the "complexity" of the text; the higher the value the less readable the text. The Fench index works the other way round, testing the percentage of the population capable of understanding the text. Generally, long sentences and words compound



of many syllables are less readable. The Fench index is required to be the more readable of the two methods.

The word count feature is particularly useful and means enough for word processing contributions to install a copy on their desktops.

Joe Connor

Floppyshop PO Box 285,
Aberdeen, AB9 5BJ Tel 01224 512755

Interface 2

Floppyshop are pleased to have been appointed UK distributors for the prestigious Heliofrontiers Interface 2 Resources CD-ROM. This is the same program originally marketed by Compo, now released at a very affordable price, with the added bonus of a fully translated English manual & is the most advanced user interface available, supporting the creation of menus or sub-menus of up to 254 colours. These menus may be used by program creators to store new programs or can be used by anyone for Desktop icons on IBM XT/AT and all TT and Falcon TOS formats. Import of Windows and OS/2 icons is also supported as is import and export to DMS format. Unlike most other RSC editors, Interface 2 supports unlimited icons, large up to 660x440 pixels max, 32K (not exceeding 800K, in size and allows 50 icons to be used within menus, making icons and menus any other component of a standard RSC file. You can save one Interface 2 in one RSC's from existing programs to just icons up to translate them (translation software not included) into another language. The standard icon may be copied or standard RSC format or in a format suitable for use with total programming languages including LPA, Basic, Lattice C and Pascal C.

Interface 2 runs on any VSE, VSE, TT, Falcon and the various Atari clones, it is fully compatible with Macs TOS, May's and Cygnus derivatives too. Interface 2 costs just £19.95 plus P&P (UK £2.00, Europe £3.00, ROW £4.00)

Positive Image 2

After a long wait, it's finally here! New features include support for ERM modules from Para Software's modular ERM system which extends file support to include IBM Photo CD and around a dozen other new formats, full user control over printer brightness, contrast, gamma and RGB levels, instant preview via SuperCD-ROM 3 or NTSC in 1 or 2 times, image icons and default settings may be saved as default, screen reviews are shown twice as fast as VCL2, printing around 20% faster than VCL2, full screen display mode and much more. Positive Image 2 currently costs £65 + P&P but is currently available at an introductory price of just £29 plus P&P (£2 UK, £3 Europe £5 ROW). Needs 1 megabyte.

Atari CD-ROMs DTP+Graphics

Floppyshop are pleased to announce the release of DTP+Graphics, the first of our new range of CD-ROM products for Atari computers. DTP+Graphics is a collection of both 12000 Columns, 500 Text Type, 400 Fontmaker, 400 CDROM, 200 Graphics and 1 other formats, the art (10000 clips in 1024, 1024, 1700, 1700 and other formats), DTP support programs, picture frames (around 100 of them), printer utilities, word processors, drawing/painting/image processing packages, font editors and CAD packages. It includes everything you need to enhance your existing Desktop Publishing and Computer Graphics setup. Well over 90% of the contents are in English and there's an easy to use settings which gives a clear description of each and every program on the CD along with the full directory path to the relevant programs/files. Finding things just isn't it to come and almost everything is ready to use direct from the CD. Also included are full versions of our DigaArt Natural and Family Icons set, an early version of our Family History program.

This unique compilation has more fonts and Clip Art than the competition and that's without mentioning all the other programs! DTP+Graphics costs just £20 + P&P (UK £1, Europe £2, ROW £4).

Suzy B's Atari Software Treasury #1

When it was originally released, this double CD set was hailed as the best compilation of English language Atari software to date. The downloads were the great way to obtain 650 Floppyshop have teamed up with Suzy B Software, North America's premier supplier of non-commercial Atari software to bring you a re-release of this popular CD which includes the complete contents of the original 2

disc set contained in it onto a single CD at the much lower price of £29 plus P&P (UK £2, Europe £3, ROW £4). Much of the software on the CD is identical to original and has never made its way onto the Internet, BBS or Fido. Categories include Games, Utilities, Children's Programs, Police software, Handouts, Comics software, Screen Savers, Future Manipulation Tools, Historical Software, MSNT Utilities, Atari Hints and much more besides, with every program contained on the disc. An Atari's Core of Atari software is an affordable price. No CD-ROM owner can afford to be without it!

Suzy B's Atari Software Treasury #2

With 1 year's access to the Atari community, Suzy B Software know more about CD and Shareware than most. This following CD-ROM contains almost 1 Gigabyte (plus approximately of the very latest Atari software. This CD contains everything which could not be supported onto the first compilation as well as all the new software they have collected in the past three years. As with their first CD, much of the software is of American origin and has not received widespread distribution outside of the States. An absolute gold mine of top quality Atari software, this CD has the contents of over 1000 Floppyshop Available now from Floppyshop for just £29 plus P&P (UK £2, Europe £3, ROW £4).

Other Software

There is a full page where, it is impossible to list everything we sell. Other products include Family Icons II, EZ Art Professional, Easy Studio, DigaArt, Easy Text Professional and Easy Text Pro Writer (DTP), The Van Dusen Book, Newborn Pro 34 and others. Full details in our AT and Falcon catalogues, available from just £1 each.

Snap Happy

So you've got returned from that well earned break and got your holiday snaps back from your local Postman. What to do? Why not get them digitised using Floppyshop's low cost PhotoShop service. We offer a professional quality scanning service at competitive prices all year round, but due to the increased demand at this time of year, we are offering our limited service prices on this service.

The maximum size we can standard service is a 4.5" print which is scanned and saved in Happy disk or both ZIP and JPE format. Please state whether your computer can read high density disks as we'll do a higher resolution scan at no extra charge. Our standard service is currently on special offer at £2.50 per scan + P&P (see below) and the maximum number of scans is two.

We also offer a Professional Service for graphic artists, designers and professional photographers where the maximum size of scan is 8.5x11 and you can choose the exact resolution you require. Our Professional Service is currently on special offer at only £1.00 per scan + P&P and the most useful number of scans is two. If you send your details first, you when using this service to please forward an SAE for our comprehensive PhotoShop leaflet before ordering. These low prices will apply to all orders received before 31 December 1993. P&P on all PhotoShop orders is £1.25 (UK), £2.25 Europe, £3.50 ROW (same day) (please state 24 or 48 hours delivery as £1.25).

Floppyshop PDL

As much of you know, we are one of the largest and longest established software libraries in the world and offer a fast and efficient service. You may not know that all regular customers not mailed with a UK zip code (based on the last 4 digits of their address) of Shareware and CD-ROMs.

We currently sell around 30 titles of software for the ST and over 20 for the Falcon every two months. So here is your chance to make the most of it! Simply pay something from us if you don't use anything you want from the software, send us few blank disks and ask for the ST catalogue or the book that if you require the Falcon catalogue. We'll send documents of disks or you want to be disappointed. Make us only £2.50 each (UK £1.25).

Ordering from Floppyshop

Please make cheques/PDAs payable to Floppyshop and ensure that you add the correct amount for postage. Credit card orders between 0900 and 1800 hours can be paid by credit card and must be paid by 10.00 hours. All orders must be accompanied by a UK zip code. Tel: 01224 512755, International: 0044 1224 512755.

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software,
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SONOLUMINESZENZ

92%

Entertainment
Premium, Falcon only

This revolutionary demo was the clear winner at Schöckemann '97 which features several new effects seen for the first time on the Falcon, and some of the very best things work even put in on an Atari demo. The Anglo-German group Aeneas produced this masterpiece.

As expected, it makes maximum use of the Falcon's amazing graphics, with the effects especially "hard coded" to take full advantage of the DSP.

However, the demo isn't a dry technical presentation. Aeneas were careful to make the demo appeal to a wide audience. For this reason, they moved far beyond some of the clichéd effects seen in many demos. Instead we end up twinkling around in a watery virtual universe of the programmed imagination making up almost as much of the real.

I was interested to see people who wouldn't normally watch demos with

watching the Atari Falcon up there, I never transition on display of the spring Atari Shows. The visuals in Sono are comparable yet it lies on a single HD disk compared to the 2500 used by the AC companies, and Sono includes a superb soundtrack synchronized to the various effects. This demo does something to please everybody. Demo enthusiasts will rave about the environmental features others will just enjoy the show. Sonolumineszenz is a classic, and we should celebrate its creation, watch it.

Chris Holland



LINE RAIDERS

80%

Entertainment
Premium, all Atari

Line Raiders is programmed by Mark Wherry is a "Tren" style multi-player game which runs in a GEM window in any resolution using any TOS-compatible OS.

The object of the game is to move your line around the screen, evading obstacles and other players, and to capture other players' lines. When you do this, that player is suspended from the current level and the last player left alive is the winner.

There are 18 random levels and always two players: computer players make up the numbers.

If your machine supports DMA, sound (ST/TT/Falcon) and the RSP patched System Audio Manager v1.3 is installed sounds can be assigned to events. An example SMA file for use with SP-SACK is included with



with a small diskette (if it is a 1.44 MB disk) for use with the RSP patched System Audio Manager v1.3.

Although some of the levels are more about survival than taking the

other players, with all types of random game, the line from the game is very interesting. Mark Wherry
Email: mark_wherry@planetall.com

for Comment



Welcome to a special to the Maggie pages. This month we feature the first Lynx game review to appear in Atari Computing! The Lynx has been popular with its readers of the Riverside Guide for some time, with regular reviews appearing in recent issues of Maggie for a while now.

We also present a review of Kakanoid, one of the most successful hot and ball games of its type. Kakanoid is Shareware and has featured on various Atari CD's released by Systems Software and T-10 Systems.

By the time you read this our web site should have undergone a substantial upgrade so do stay by and visit us again, brother!

the 3rd version of our Atari Computing web site

Richard Groomer and Luca Munkacsy
The Maggie Team, Inc.



At last! 3D computers again - it's time to feature Europe (thanks to a Euro-Magazine processor)! The new software was snapped up by Microsoft but as the prices dropped the score improved. My brother and I then got our hands on an ST towards the end of 1991 and installed The CD32 Software Team (didn't have a great idea).

Quite by chance we discovered an Atari 400 called "Coda" in a computer store sponsored by the former Hungarian state Trading Company. There were six IBM ST's running college courses and all kinds of different people including students, actors, musicians and even the odd mathematician. Initially this club was a center for high school parties but gradually these events turned into "Jullaband" and these days most of the game players and those who profit are concentrated in CPU and assembly programming.

The very first Hungarian Atari ST disk program was called ROMMA. Back in the spring of 1992 we were part of the original

Kakanoid

Kakanoid is a reworked version of Arkanoïd, one of the classic arcade and computer games of yesteryear. Ken "Tall" Davies tells us why this is one of his favorites.

Many years ago a game appeared in the STFM Computer Park called Arkanoïd, designed by Peter Johnson. It was one of Ocean's most playable ST games. Arkanoïd added a new dimension to the breakout genre with the addition of extras such as power-ups and legendary gameplay. Arkanoïd was so successful it even spawned a sequel, called Revenge of Odn. But by this time the game had been close to death on every conceivable platform. For those of you who missed the original, here is the plot - based on the description in the Computer Park manual:

After the moonlanding Arkanoïd was destroyed, apparently being assembled away only to be trapped in the void. You control the Vase and have to penetrate 32 levels (the cartoon the Descenter Charger whom you must destroy in order to reverse back and reinsert the ROM/ROMS... "Yeah, right" Well it's different).

Power-ups were the thing which made Arkanoïd stand out from the crowd and set the standard for everything from multi-balls to lasers.



Arkanoïd also demolished the joystick and concept, replacing it with patterns of dots - the classic space invader screen can be found somewhere in most clones today.

Kakanoid is an Arkanoïd clone, in fact it is very close to the real thing with the exact same graphics, screen layout and identical level. The differences I've spotted are:

- You can start on any of the first twelve levels (there only appears to be 32 levels but I've just got to level 18 as there are more)
- There's no sound (which some may consider a good thing)
- There's no CPU
- The game is French
- So why re-release the what? Well the original game weighed in at over 500KB yet Kakanoid occupies a mere 500K! If you don't like Arkanoïd, why away - if you do, here's a ball - grins.

Rating: 80%

Greg from COMA (a Hungarian Atari disk magazine) tells us about the Atari scene there...

Years ago when some readers were given a Computer Magazine (COMA) which is the only remaining Atari mag in our country nowadays. The first issue was published in September of 1992 and is still going strong today.

The contents of COMA normally feature games, utilities, news, humor, graphics and more recently coding & ROMs. Most of the articles were written by us (in Hungarian). Last year we decided to team up with Laci Csiki, a gifted ST/Falcon programmer to produce a joint ROMMA/COMA drawing, but it's still just a dream.

We've recently obtained a Falcon in COMA format. I recall it which may be the first Falcon compatible version. Previously

when Hungarian period magazines had Atari columns last three days - it's site called the CD32. I think with it our machines. The main focus of the Atari scene is in Budapest, the capital, but there is activity in other cities including Miskolc and Szeged with maybe up to 3000 users throughout the country.

In addition to publishing COMA we're currently working on some games (CD32 software). We recently obtained a copy of Maggie from a German friend. The first floppy disk magazine we had ever seen. Our first was quite surprised to find we had a lot of things in common including some pictures in the articles, the graphics software and even floppy Python sketches. We're keen to gain the European Atari scene and other scenes and have a truly international presence.

FF Fairwell...

The Palace First File was launched by five Amershamites: Colin F, Alan Middleton and Nigel Dwyer in December 1982. Originally a secret group for Mac file owners, the FF was set up to protect open users in 1987.

Things either move on or stagnate and the FF could not be accused of standing still. First we produced a listing for members and then a computer set-up using Roger's Macintosh Address Manager. It was a bit before Herts & Tys were being used by members and these were added to the listing. Dave and Colin started writing reviews of the new software; however their output and published items in the listing. Again occasional members sent in their articles for inclusion. Meanwhile, output was fast but the post content was getting bulky and we wanted to include acknowledgements.

Along came the excellent ST Guide and a number of FF review letters were put together using this and we made them available to members. With the release of the GAB web language the FF members eventually went online in HTML format.

General TTs and Pinks were invited to join the Palace owners however an unusual circumstance (the late 1989) and we changed the name to Palace MacTT File with two lists (MacTTs) and a message echo was opened on MacT and we passed the 10th century by launching the listing as an overview of archive to protect members, personal files. The echo proved popular and having been hit by the content they are agreed our own BBS. In the future of the Palace MacTT File which offered support a list for all Atari organizations. GABs stopped rapid access so until Colin, as Dave, could not follow up and the BBS closed its doors in September 1991 after a two-and-a-half year run.

FFB members were encouraged to contact each member and give help and advice. For example, our members thinking of buying a new word processor could see Macintosh to find out more on a well-known system and get their e-mail in current state options. Ben and Colin are well in contact with many old BBSers. Our membership list the BBS and the review were all free of charge.

Our interest in all things Atari grew and it is fairly easy to get a copy of our old writing for Atari in old. After the end of June of 1991 (1991) the Palace MacTT File improved with further technical plans. Some updating the review from the membership listing view, that became popular with our Palace members as another useful source of information and with this in mind we decided to expand coverage to support all Atari owners and AtariFile was launched in May 1992.

ATAIRPULE



The studio was beginning to show...

For the next year Ben and Colin ran the FF as a hobby. The membership listing, 1992 and AtariFile proved to be more than we could cope with as we were delighted to maintain Diamond Data, a long-standing contributor and FF member as a contributor. Following consultation with many of our active members we also decided to drop the membership listing and end our own group status in connection with AtariFile and 1992.

The best laid plans...

"There are times when the work and when we just stop producing AtariFile just seems to be more than we can cope with." We launched AtariFile with three graphic cards and have no more since rigid constraints. At all times to date 1992. Therefore we decided to call it a day and the even that AtariFile would close was recently announced in the AT support area on MacT.

A lot of time and effort goes into each issue of AtariFile. With work and personal commitments it had become a strain for the three of us to produce recent issues and the publication dates had been put further and further back. We felt we were unable to give the level of commitment necessary to produce AtariFile as 1992 will be our last.

We would like to thank everyone who gave their time and articles to the publication and also everyone who supported AtariFile by reading it.

We would also like to thank all the readers who have supported the above organizers who demand us from assets and the FF library who distributed AtariFile for us. At least this support AtariFile would never have been as successful as it was.

We've enjoyed the last few years and have made many friends in the Atari community. We just want to become more acquainted from the online listing gallery AtariFile, 1992 or the Palace MacTT File and I being thanked is properly.

Hopefully the Atari world as well served by contributors, disk bugs and the excellent Atari Computing magazine. We offer our full support to Atari Computing and hope to be able to continue contributing towards its continued success behind the scenes.

Our final words...

May The FF live on in the With You.

Ben Lamberton-Gib, Colin Dwyer-Middleton

and Diamond Data

October 1992

The Lambda articles in Atari Computing were particularly well received by the particular reader. I had just completed a request to supplying a colleague with two customarily used specified 1992 a with hard disks. 1992 is considered and considered. There I discussed Overflows was no longer available.

No big deal, I hear some of you thinking? However if you regularly work on 1992 size images using Overflows can display the complete width of pages without side to side scrolling. Both systems were designed for use as simple DTP platforms and I didn't want to tell the guy about. At that point I remembered the Atari Computing features on Lambda.

The first Lambda article was printed in detail and since there was nothing relevant on the Lambda disk I had to follow up the usual "Available from all good PC Magazine" line. Oh well, I took the opportunity the 1992 disk catalogue revealed nothing but I did find it in the PagePlus database - multi-paragraph in the Language and Programming section for some reason. After considering a few choice words I noticed the disk which duly supplied the next day.

Clearly the disk contained the required information but the info required to make the features on the ST motherboard were not! The documentation stream the reader towards the original PC version disk and you can work it out from that.

It wasn't a problem for me because I had a copy of the original commercial Overflows manual. Nonetheless I would have been able to be sure and it did occur in me if I was online I could email the author and probably download all the files.

I had two choices: get online immediately or wait twenty or so on my PC using colleagues' phone which option I choose? The next day I downloaded all the required files along with the missing installation hypothesis: bonus!

The Lambda article in Atari featured a step by step guide to creating a diskset based on it which are as a lot of work for a circuit involving a couple of ICs only so I must have been fairly thorough indeed.

Readers should also be aware that the next-generation of Dwyer's Craker's original circuit design has the two ICs incorrectly labelled! Simply swap the ICs over and all will be OK. Thank it.

DISCLAIMER

Neither the Lambda author myself nor the Atari Computing Group accept any responsibility for losses or any damage to your machine as a result of attempting this project.

Lacescan v3.5

Richard Harrison fills in the gaps...

Beleigh yourself! If you don't believe it, this test step was nothing but a trick - despite having done this before. I still had it wrong as before you cut any track think twice - cut down and if you're not confident you can reverse the process in an emergency then don't start the project!

Remember the closing sequence of Max Ware where Derek Taylor and the T'Fighters appeared when our faces were least expecting it? If you're counting on Hans Rude and his hairy friend to rescue you I feel obliged to point out that while both showed considerable ingenuity substituting the dark known width of three hair bars seen being 300µm into an 80µm bar about covering tracks, as an STPM if you screw up you're in for an expensive repair bill!

You should also be certain you understand the pin numbering sequence of both the MMC and G4.0 chips otherwise it's a trap to get lost!

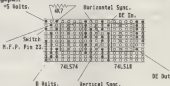
Back to work

Having cut the tracks I lifted the board as possible and proceeded to test it. I don't know about you but something unexpected always seems to happen with DIT projects and sure enough there was a problem. The wires, which I'd carefully reconnected, were completely out of place. More gloom and gnashing of teeth. After a bit of trial and error I made a breakthrough: the entire system - including Lacescan and hard disk - would work fine when booted from floppy but not off the hard disk - more lost language and screaming now.

If you have been banging your head against a brick wall after a while you will not be thinking or working efficiently - my wife calls this the "Wash and Wier" stage. Simply stop and leave the problem overnight. The next day I tried an alternative strategy I changed the G4.0 chip and it worked first time - so if you experience the same problems you'll know what to do.

WHERE TO GET IT

Also refer to AL81 and AL45
Author: US Ronald Anderson
Email: rander@comcast.net
URL: <http://www.cnet.com/~dantley/>
Floppydisk: \$25.00 disk: Original \$70
Download: disk: \$5.00



(Component Side)

LaceScan - Veroboard Overlay



the cost of each machine and sum the number of users.

The Post Office offer a simple solution to avoiding money overruns: simply tell them where and to who to send the money and pay up. It couldn't be simpler so there's no excuse not to pay.

My colleague was pleased with his purchases and is the happy owner of two of the most highly

specified ST759's in the country. Good luck to him and thanks to Alan. Computing the clearing will be the right time too. ☺

HINTS

- Try to use the holes in the wax at the end of the relevant tracks as a guide to place the wires to check you've got the right ones with a multimeter.
- Corrosion fluid is an invaluable aid to working tracks on multiboards prior to making testruns.
- To fix the board into position use a couple of these wonderful little string Wires (being made for marketed by Sellen) - they're great!
- Don't panic if you are confronted with a fairly black screen. The last machine I installed Lacescan into behaved this way until the software in the Auto Loader cut out.

Time to modify the second machine which happily worked last time but did exhibit an annoying side to side flicker with the last few pixels.

Instantly wrapping themselves around to the left of the screen and back again. This machine had also previously been upgraded with some other bits and whistles and this provided me with a clue to the source of the problem. Sometimes high frequency electrical signals (spikes) with each other in a called constantly even though there is no direct electrical connection. I can't be 100% certain the offending lines were the disk drive lines (yellow cables to second internal floppy in tower case) and wiring to secondary drive modules are particularly suspicious but re-wiring the wiring away from these lines solved the problem.

Payment

As usual is out of their pay what you feel it's worth (plus I added \$5.00 to

Creative Calamus

by George Bradford



CUSTOM KERNING

The term "kerning", as defined by the book *The Art & Technology of Typography*, reads as follows: "A mathematical reduction of white space between two characters, input as commands by the user, then calculated and carried out by the computer." With this in mind, we are looking at the relationship between characters within a word, and how well each character relates to its neighbour. Letterspacing (or tracking), on the other hand refers more to the fixed space built into the font to achieve ideal character spacing in a line of text. With Calamus, "intelligent kerning" is built into the better quality fonts by the designer, and as such, more or less negated the need for "kerning pairs" found in other systems. However, with the introduction of Type Art, true pair kerning within the GPM format is again a reality. On the whole, proper letterspacing is "in the eye of the beholder", and trends over the years have ranged from loose wide spacing to extremely tight spacing.

In this installment we will concern ourselves only with manual kerning of display type (normally used for headings), and how you can alter the spacing between letters to achieve a better visual balance within the word and word grouping. In Calamus 1.00N, kerning white space is added or decreased in 0.1 point increments using the Shift/Arrow keys in combination. However, if you require larger increments the Control/Arrow keys will add or delete in steps of 0.8 point steps. Note that manual kerning can only be done in the layout window (WYSIWYG view), but this is ideal, since you can see exactly what is happening. You simply decrease space with the left arrow and add space with the right arrow. The Shift/Up and Down arrows will alter the baseline alignment to move letters up or down in relation to their neighbours, and although it is not true kerning, this feature does have its uses as we will see in a moment.

HABITAT The upper example of this word was set in 36 point Cherry Baskerville with the normal (0.0) letterspacing. As you can see, the only pair of characters which crowd each other is the "R" combination, and this is certainly accentuated by the overhang on the "T" character. By altering the letterspacing to 12.0 points we have opened the letters up considerably. At this point we will go to the layout window and place the cursor to the left of the "I" and insert five Shift/Right Arrow keystrokes to increase the space between the B and I. To add interest,

HABITAT
H·A·B·I·T·A·T

a series of six 24 point periods were spaced across the word and kerned manually to fall neatly in place between each character.

BULLETIN Set in 36 point Cherry Baskerville Gothic, this word is a good example of how two characters within a word can dictate the required kerning. You will note that the two L's tend to create awkward gaps in the original word, which was set with 0.0 letterspacing. The object here is to open up the space between the other characters until they reflect the same amount of space as the L's occupy. The principle is that you should be able to pour the same amount of water into the space between each letter. This is accomplished by manually kerning more space between the other letters within the word.

WAYWARD Set in 36 point Cherry Baskerville Bold, this word is a perfect example of the eternal conflict between certain letters. In this case the WY and AR pairs are the worst offenders. About all you can do here is tighten up those two pairs, and open up the other letters to strike a happy medium.

BULLETIN
BULLETIN

WAYWARD
WAYWARD

TIGHTENING UP TIGHTENING UP TIGHTENING UP

TIGHTENING UP The first line is set 36 point Cherry Benjamin Book with the standard 10 point letter-spacing. We then applied -04.8 point spacing to the second line for a tight effect. As you can see, certain letters began to encroach on their neighbors' living space, so very minimal kerning was inserted where needed to produce the final version.

LOOKING GOOD Set in 34 point Arc 26, the example is meant to illustrate individual character kerning schemes, which can produce some unique effects. Here we will only back kern the O's, with two strokes each of the ControlLeft Arrow. Yes, you can actually kern a character back so far to the left that they actually destroy the word!

BYNE&CLYDE Set in 40 point Cherry Baskerville with 60 point emperand (&) and no word spaces. Here we have an example where the ControlDown Arrow might prove useful. With the cursor to the left of the "&" we apply 3 strokes, to lower the emperand until the top of it lines up with the x-height of the lower case letters. You will

immediately note that Clyde will also move down along with it. Now, with the text cursor to the left the C in Clyde, simply apply 3 ControlUp Arrows to get it back to its original alignment. It will now be necessary to back kern Clyde into a position overhanging the emperand. Finally, a 10 point rule was added either side of the emperand, to add interest.

THE WORLD'S GREATEST FOOTBALL PLAYER! Set in 40 point Cherry Baskerville with 30 point absolute line spacing activated. Throughout this grouping we tightened up the letters to get a more compact overall effect. Each letter combination was treated differently, so its pointless to list them all here. However, you will note that the apostrophe has been raised using the

**THE
WORLD'S
GREATEST
FOOTBALL
PLAYER!**

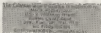
**THE
WORLD'S
GREATEST
FOOTBALL
PLAYER!**

**LOOKING GOOD
LOOKING GOOD**

**Blyne&Clyde
Blyne&Clyde**

ShiftUp Arrow command so that it ends up above the adjoining characters, rather than sandwiched tightly between them, thus allowing a nearer fit for the last two characters. The final type arrangement was then reverted to white type and placed on a black background.

It should be obvious that the kerning we are dealing with here is meant mainly for display heads and other type panels of 18 point and over. Not that you couldn't go into your 10 point body copy and adjust spacing at will, but it simply wouldn't be practical.



QUESTIONS & ANSWERS

ACCEL hard disk

Q My system is an Atari 1175 with 4MB and internal IDE/MS-Quantum hard drive. I have a problem with my hard drive. I accidentally reformatted my DEBSTOP 100 on drive C while the DEBSTOP 100 was my SPAT summer master disk in Drive A. Now the Macintosh during "loading configuration" I have tried the usual procedure to reload the hard disk.

- Inserting Discs Drive A, using TOS 3.1.4 with the HD controller not switched off
- Switching on the HD
- Double-clicking on KIDBIOFF.FDS to load the HD
- If this does everything to load for Drive C, the TOS reports "This drive does not exist" and recovers the data
- It is possible to reformat my drive without reformatting the hard disk?

K. Bess, St. Paul, Texas City

A It seems likely the DEBSTOP 100 is only part of the problem. It is possible KIDBIOFF.FDS on C is corrupted and is a trouble like we mentioned and is a trouble like we mentioned I never up in the directory window.

- Try this:
- Turn off everything
 - Turn on hard computer, wait for desktop to appear
 - Turn on hard disk
 - Insert backup tape of KID software disk and floppy
 - Run KIDBIOFF.FDS. It should display your hard disk name and partitions
 - Run KIDBIOFF.FDS. Click on [BIOFF] to load disk onto boot, make sure the C disk button is selected then select OK
 - Copy KIDBIOFF.FDS to Drive C
 - Quit to desktop
 - Reformat hard disk desktop icon
 - Drive DEBSTOP 100 file from drive C
 - Save a new DEBSTOP 100 file
 - Load, quit Atari and everything should run normally again

Rob Colverman

Self-extending archives

I have a trick which makes it much easier to extract files from Self-Extending Archives from TOS 3.04 onwards.

- Open a desktop window to display the self-extending TOS file to be extracted.
- Open another window to where you would like the archive unpacked to.



- In about "topping" the first window (i.e. the second window, usually a slightly different disk and held down the right mouse button while double-clicking on the archive with left mouse button. It sounds more painful than actually doing it.
- Release the right button and the TOS program will run from the first window and unpack the archive into the active window.

Derogek Croker

File transfer

Q I am using Gamma with a 4MB XT-TOS 1.04. I notice that the utility is not switched on when using Gamma. How do I get it to?

top, 1000

John Linder, London

A From TOS 1.04 the desktop has a utility option in the Options menu. Make sure it is ticked then Save Desktop.

Options



If you're using Macintosh-style the Option in the Neo 1.0 don't. I used then save your Personal configurations.

Rob Colverman

Mega DMA

Q I've received my Mega XT into a new house but currently have an annoying problem keeping from the internal 20MB port into the 4 SCSI hard disk. I notice the Mega XT has internal DMA ports but these can cause some instability then externally and I don't trust my motherboard readings. Can anyone help?

perpetrator@hugobn.co

A The internal DMA pins were used as a 16 internal drive bus including the ACS ADSCs Mega XT. The ACS internal connector pins are:

1	0V	1	0V
2	0V	2	0V
3	0V	3	0V
4	0V	4	0V
5	0V	5	0V
6	0V	6	0V
7	0V	7	0V
8	0V	8	0V
9	0V	9	0V
10	0V	10	0V
11	0V	11	0V
12	0V	12	0V
13	0V	13	0V
14	0V	14	0V
15	0V	15	0V
16	0V	16	0V
17	0V	17	0V
18	0V	18	0V
19	0V	19	0V
20	0V	20	0V
21	0V	21	0V
22	0V	22	0V
23	0V	23	0V
24	0V	24	0V
25	0V	25	0V
26	0V	26	0V
27	0V	27	0V
28	0V	28	0V
29	0V	29	0V
30	0V	30	0V
31	0V	31	0V

The extra pins are all additional ground pins with the rest directly connected to the respective pins of the internal 16 pin ACS connector.

Source: Alan ST ProWork Peter Rodriguez via Usenet

SPINBALL 2 Playing Style

Having spent getting on for five years looking my style at this game, I've decided to share my experience with you.

Statistics: The key attributes to focus are POWER, THROWING SPEED and STAMINA.

The others can wait until needed. It pays less weight in the league or cup or even one of the really better ones such as Lord Mary, concentrate on SPEED and STAMINA.

In the team management game INTELLIGENCE is most important.

There are several key factors:

- Get control of the 10000 MULTIPLES. This should be your first priority because the ELECTRONAL is much more effective and you score more points. Use of the ELECTRONAL can also help you to score goals and gain control of the SCORE MULTIPLES, but be careful you don't neglect of the ball while you have the ELECTRONAL. Because you probably find your paper takes a beating, your opponents will take control of the SCORE MULTIPLES, and you'll be a serious trouble.
- Next, learn the 10000 MULTIPLES. Most teams don't have a tip about to take control of the SCORE MULTIPLES which works to your advantage.

• Always learn to defend. You can't rely on your own team to do all the work. It's important to have a good defense to stop the other team from scoring.

AC#6 BUG REPORT

- In AC#6, the AC#6 system can not a multi-tasking OS. In AC#6 we need with MMIO to provide a multi-tasking OS, however MMIO can be used without AC#6 or with other AC#6 versions, such as AC#6.0.
- In the News pages we reported PPP Connect was the first software offering PPP Internet access for the Atari platform. This is not true because PPP support is available using MMIOset, although it's not easy to set up. MMIOset now also offers PPP support.
- In the Letters pages we incorrectly reported Intrepid to a product developed by Home Systems to access PC-based CD-ROMs on the Atari. In fact the product is called Atari CD Master and this does support Intrepid as a proprietary CD-ROM image software.

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The Atari Portfolio the really



Portable personal Computer....

Yes, the amazingly compact 68010 based Portfolio is small enough to fit in your hand - yet is powerful enough to offer you features you'd expect to find only on a full sized desktop PC. Individually, it will work in any language on those 45 machines (also runs from optional screen adaptor) then a dash for portability? The Portfolio works in 11 languages, English, French & German. Comes complete with 16 built in DOS applications (available on 3.5" disk).

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It is likely that not all members of the *Chlamydomonas reinhardtii* heterocystic pathway will be able to do so, and only a subset of these may be able to do so in a heterocystic pathway. Heterocystic pathway for nitrogen fixation is present in a *Chlamydomonas* and is likely to be involved in heterocystic fixation. It is likely that not all members of the *Chlamydomonas reinhardtii* heterocystic pathway will be able to do so, and only a subset of these may be able to do so in a heterocystic pathway. Heterocystic pathway for nitrogen fixation is present in a *Chlamydomonas* and is likely to be involved in heterocystic fixation. It is likely that not all members of the *Chlamydomonas reinhardtii* heterocystic pathway will be able to do so, and only a subset of these may be able to do so in a heterocystic pathway. Heterocystic pathway for nitrogen fixation is present in a *Chlamydomonas* and is likely to be involved in heterocystic fixation.


**Ultimate
Virus Killer**[illegible]

The above are **MAINTENANCE** items.
 Below are **REPAIRS** for the **Booster Assemblies** for the **Booster and Motor**.
 Repairs are **MAINTENANCE** items.

1. *Journal of the American Medical Association*, 1997; 277: 1039-1043.

1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 26

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These groups have across chapters groups and can also discuss across 21 22 in Police

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What were Serling's attitudes to life and death?

These catalogues provide information on various nationalities for easy finding and printing of names. Also:

Page/series given above helps to identify the page given for attachment and series number.

Page 634,95 - Page 634,95

It's
New
It's

These figures are averages and are based on the
assumption that the average of the 100 most
common words in the English language is used.
However, there are many words that are not

The drug-and-bleed protocol is being used progressively (starting with surgery) for a small number of patients in the first group, but it is not clear how many patients will be treated with surgery alone. The drug-and-bleed protocol is being used progressively (starting with surgery) for a small number of patients in the first group, but it is not clear how many patients will be treated with surgery alone.

Can use positive practice and key messages and a consistent routine.

Contingent cases were being found and used both at and had images. Imagery can structure and structure, and it can fall as well as the other side.

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The magnitude from heterogeneity of the null values was studied. For all values considered, we have that:

[illegible]

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Table 1 shows that the mean values and percentages increase from the beginning to the end of programming in the SC. The corresponding data for the percentage of programming completed show that as programming continues, a higher percentage of the total is completed by the end of the course (Table 2).

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

Pennsylvania Dept.

How you manage your tax Committee
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What you should do about it.

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- **3.3.3 IBM POWER** On average, 50% to 20% faster than Compaq's. The low price is caused by cutting the top speed of an 4.5ns FET computer (32 bits) to 2.5ns (non-dumped) to a 500 MHz. Compaq is a 1.5ns/500 MHz one.

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remains limited by the primary/first-grade
curriculum, since the first three years

27. (b) a more efficient comparison. Consider the only possible comparison of \mathcal{H}_1 and \mathcal{H}_2 as follows: $\mathcal{H}_1 \leq \mathcal{H}_2$ iff

- [illegible]

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| 12 | Guatemala 84 | 1 | 42 84 |
| 13 | Guatemala 84 (Group) | 1 | 18 84 |
| 14 | Maya 1 (Two Guatemala) | 1 | 50 84 |
| 15 | Guatemala 100 (Group) | 1 | 1 84 |

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